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Edited by HENRY C. PEARSON—Offices, No. 150 Nassau Street, NEW YORK.

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NOVEMBER 1, 1905.

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## DRAWBACKS TO THE RUBBER TRADE.

IN another column is reported the loss on the Amazon, a few hours above Pará, of a steamer carrying 210 tons of rubber, worth locally perhaps near \$400,000. Such occurrences are not frequent, though within a year the Amazon Steam Navigation Co. have lost on the Purús two steamers worth \$130,000. But they are liable to occur at any time, for navigation on the Amazon and its chief branches is not all plain sailing. The most recent disaster was due to a collision, at a point where the Amazon is a sea rather than a river, between two steamers which had been hid from each other's view while rounding an island. Some of the rivers are badly obstructed by cataracts—notably the Madeira, on which it has been asserted that one-fourth of the rubber sent down from Bolivia is sunk and lost.

Another piece of news from the Amazon relates to serious damage by storm to a government boat between Manáos and Pará, after which, and apart from the effects of the storm, the boat ran aground and required assistance, for which payment had to be made. This boat, by the way, was following a merchant steamer with a cargo of rubber of disputed origin, payment of export duties on it being claimed both by Amazonas state and the Federal administration in the Acre.

These matters we refer to as illustrating the drawbacks to the trade in crude rubber which exist in addition to the remoteness from commercial centers of the rubber forests and the natural conditions which accentuate the labor problem. After the rubber is harvested, there are serious risks in transportation, while the attention which the tax collectors give to the business does not tend to encourage enterprise.

Nor is the list of drawbacks exhausted. The treacherous nature of the river bed still renders the Amazon cable line useless for much of the time, so that the interior rubber centers often are cut off from communication to an extent which seriously handicaps trade. It may be added that a glance at the recent extensive report, by the learned director of the Pará Museum, on the 14 species of Amazonian mosquitoes—including the yellow fever disseminating kind—all pictured in colors and in heroic size, would suggest to some minds a serious drawback to rubber gathering where such pests abound.

There are continually brought to our notice opportunities for the investment of capital in rubber estates—developed or otherwise—in the Amazon valley, and on paper some appear very attractive. Gather so much rubber at one price and sell it another (and higher) price, and one cannot fail to grow rich. But none of the prospectuses takes into account such drawbacks as are referred to constantly in our pages, not from motives of discouragement, but simply as a result of the ordinary work of newsgathering, which is our province.

The fact that in spite of all these difficulties so much forest rubber is produced proves how necessary rubber has become to the world; if the cost were twice as great, rubber would still be demanded. Without doubt the ex-

plottation of Amazon rubber yields profits to the people concerned in it, else the supply would cease. No doubt, also, many operators and investors suffer losses, just as is true in gold mining. And these losses are most apt to fall upon people who live abroad, or who have not become familiar with the business as a result of costly experience. Hence it is not strange that rubber concessions find so few ready buyers.

Many drawbacks to the rubber business ought in time to be overcome. To tell the truth, the Amazon valley is probably not less fitted now for the residence of Europeans than was the Mississippi valley 300 years ago, considering the advance science has made in sanitation, in engineering, and in other lines. All South America will be thickly populated in time. But this is no encouragement to the buying of wilderness rubber farms to-day, too remote for the investors to keep in touch with them, and under the jurisdiction of governments ineffective in the matter of protection, indisposed to give aliens fair treatment, and concerned about rubber only in taxing the traffic oppressively instead of adopting a policy of assisting its present and future development. It is this same governmental policy, that, as much as anything else, promises to lose to Amazonia its preëminence as a source of the world's supply of rubber.

CEYLON PLANTATION RUBBER has begun to appear at the Antwerp auctions. But nowadays rubber from every source figures in the important sales there. What is of much more consequence is the recent formation of a large company by Belgian capitalists to acquire several productive plantations of "Pará" rubber in the Malay States. This action we suspect to be the result of an exhaustive study made during the past two years by a member of a large Antwerp firm who have been an important factor in the crude rubber market there from its inception. Recognizing the imminence of a decline in production of rubber on the Belgian-owned concessions in Africa, an expedition was organized to study the conditions, present and prospective, of rubber production in every country, in order to determine the most promising field for the investment of a part of the capital which now yields less returns in the Congo than formerly. The conclusions reached were that the world's hope for rubber supplies lies ultimately in planting, and that, for the present at least, the Far East offers the best field for investments in rubber culture by Belgians. The new company mentioned in our news columns this month is the first result.

WE HAVE HEARD PEOPLE EXPRESS SURPRISE that the India-rubber trade afforded enough "news" to call for the regular publication of a journal devoted to that interest alone. We do not recall any month, however, when something really new in connection with the rubber business has not transpired, and it has been our pleasure as well as privilege to aid in giving the information currency in the trade. For example, we believe that this issue of THE INDIA RUBBER WORLD is the first journal to report the discovery that Balata is not mentioned in the United States tariff schedules, and that the customs powers that be have decided that, in default of provision to the contrary, imports of Balata henceforth are dutiable. It may also be "news" to the trade that there is a collector of customs at Norfolk, Virginia, though it was through the close scrutiny of this alert functionary that the discovery regarding Balata was made. What previous record of merit the Norfolk collector may have

to his credit we cannot say, but it appears that, on having to deal for the first time with Balata he tried to swell the national treasury reserve by an impost upon it, and his superiors will stand by him. It may be that the latest decision in the matter will yet be upset; but the Norfolk collector, having had a chance to be heard from, has not been caught napping.

THE GREAT DEVELOPMENT OF AUTOMOBILISM, and the related demand for tires, many of them costly, without doubt has been the basis of the greatest growth of the rubber industry in recent years. There has been nothing comparable to this growth in any former period. And it may not have occurred to everybody in the trade that France, the home of the automobile and of the pneumatic motor tire, no longer leads in the use of such vehicles. In New York state alone the number of registered automobiles at last accounts exceeded by some 3000 the number of registered motors in France, and two other American states together show as many registrations as New York. And there is no one of the other forty-two states without automobiles, though the lack of registration laws in many states renders impossible an estimate of their number. It is no wonder, then, that the American market for tires is coming to be regarded with interest by makers everywhere. As for the rubber factories, they have further encouragement in the growth of the use of rubber tired commercial motors, already a good second to the automobile, and destined possibly to exceed it in the demand for rubber involved.

THE VANDERBILT CUP RACE on October 14, just outside of New York, did not result in an American victory, but that, of course, was not the object. The contest did, however, stimulate greatly the American interest in automobiling, by bringing about a closer competition with foreigners, and giving both makers and users of automobiles on this side of the Atlantic a better idea of what is needed to put them abreast of the most advanced progress made in Europe. The fact that the cup goes to France is all the better, provided it should next be contested for in that country, by reason of the educational effect upon the Americans who will go over to attempt to reclaim the trophy. We feel that, on the whole, America has no cause to be ashamed of the showing made by the machines entered by home makers or by the work of the contestants in the race, while the showing made by the American tires was most creditable—and it is this feature of the whole business which most concerns the rubber industry.

THE ARRIVALS AT ANTWERP of rubber from the Congo Free State for the first nine months of the current year were smaller by 28 per cent. than in the same months of 1901, since which year the Congo rubber output has declined steadily. The best days of the Congo rubber trade probably have been passed, and the days of fabulous profits of the trading companies holding concessions in the Free State. The future of the State and the condition of the natives do not appeal strongly to the interest of the outside world, but where the rubber is to come from to replace the supply from the Congo when that is exhausted is a question of direct or indirect interest to all workers in or users of rubber.

ALASKA APPEARS DESTINED to become of great importance to American commerce. It is only a straw which points the direction of the wind, but it may be worth mentioning that the shipment of American rubber footwear to that territory during the last fiscal year amounted in value to \$166,644, or more than 2.3 per cent. on the \$7,200,000 which the United States paid to Russia for Alaska.

## CONGO CONSUL TO THE UNITED STATES.

THE appointment of Mr. James Gustavus Whiteley, of Baltimore, Maryland, by the king of the Belgians as consul of the Congo Free State in the United States was reported in THE INDIA RUBBER WORLD, October 1, 1904 (page 21). Quite recently Mr. Whiteley has been raised to the rank of consul general, in recognition of services to the Congo state. He will now have charge of Congo interests throughout the United States, besides which this appointment makes him dean of the consular corps resident at Baltimore. Mr. Whiteley sailed on October 10 for Brussels on official business. Mr. Whiteley is a widely known writer on legal and economic topics and has represented the United States in several international congresses. Among other important bodies to which he belongs is the Institute of International Law, the membership of which includes Baron Kaneka, who lately visited the United States as an agent of the mikado of Japan, and Dr. Frederic de Martens, who acted in behalf of Russia in drafting the treaty of peace at Portsmouth.

## INSURANCE OF OCEAN CABLES.

THE submarine cable despatched from London to the Mexican Telegraph Co., and arriving at Galveston, Texas, by the steamer *Faraday* in June [See THE INDIA RUBBER WORLD, July 1, 1905, page 349], measured 900 nautical miles and was insured in London on a valuation of £100,000 [= \$486,650]. In accordance with the terms of the contract underwriters were liable for partial or total loss of the cable not only while loading and in transit, but also during laying and repairing operations. Unlike ordinary cargo shipments the total value of the cable at risk diminishes as laying operations proceed. Underwriters have no further interest in cable expended, as the same is then uninsured. It generally happens, however, that the length of cable shipped provides a surplus at the termination of the work of laying and repairing. This, of course, is covered by the original insurance, which, in the case of the *Faraday*, expired on the delivery of any spare cable at Galveston. The insurance was accepted at a premium which was quite moderate notwithstanding the fact that the transport and work were effected by a steamer over 30 years of age.

## TIRE REPAIRING IN AKRON.

[FROM THE AKRON (OHIO) "TIMES-DEMOCRAT."]

"THOUGH it has been the impression for a number of years and it is still believed in many quarters that the pneumatic tire is not a success and that the really practicable tire remains to be invented, it is true that the rapid advance that has been made in methods of repairing tires has had much to do with removing this condition," said a well known local rubber man to a reporter for the *Times Democrat*.

"Akron has been the place where many of the tire repairing inventions have been made. There was a time, once, in the early days of the bicycle craze, when more pneumatic tires were repaired in Akron than in any other place on the continent. Tires from Mexico and from Canada, tires from California and from Maine came into the big Akron rubber shops for repairs, and their owners simply waited until they came back.

"And the first repairs were crude. Sometimes they did not last until the tires were out of the factory. But this has all been changed. Now it is common to take one of the big auto tires that are made in Akron, cut a faulty or injured section

right out of it, build in another, vulcanize it so that the repair is really a part of the original tire, and send the tire back to the owner, good as new and as strong as when it was first made.

"The modern system of tire repairing has opened a field for much special machinery for this purpose, and some of the Akron machine shops are profiting largely by this kind of work."

## WEAVING CURVED ELASTIC FABRICS.

IN the specification of British letters patent No. 9510 (1904), H. J. Gaisman, of New York, says that narrow elastic fabrics having rubber or other elastic strands interwoven longitudinally with the warp and weft threads, are woven with the elastic strands on one side of the central line thicker than those on the other side, or with the elastic strands graduated in size from one selvage to the other. When the fabric is in its normal condition the thick strands tend to draw the fabric towards one side, and thereby cause it to assume a curved form as indicated by dotted lines. The strands on one side may be put under greater tension in the loom, or the strands may vary in elasticity from one selvage to the other. The fabrics may be used for braces or suspenders, garters, armlets, and the like. When the fabrics are used for straps of braces, the convex edges of the two straps are connected at their meeting point by stitching or otherwise.

## CAN YOU PREDICT RUBBER WEATHER?

TO THE EDITOR OF THE INDIA RUBBER WORLD: As an amateur farmer, I am interested in the weather. I have gathered meteorological data for years but have not as yet found the slightest basis on which to ascertain the state of the weather even twelve hours ahead.

The government weather predictions are very faulty, and as many laymen claim they can predict the weather more accurately than the weather bureau, without any of the elaborate apparatus of the government, I hereby appeal to all the weather prophets of this country to enter a thirty day contest for a cash prize of \$100 which I will give to whoever predicts the weather most accurately and will tell for the benefit of the public by what methods he arrived at his conclusions. If the Editor will kindly publish this and aid in advancing the science of meteorology, I will be grateful.

F. R. FAST.

No. 97 Nassau street, New York, October 6, 1905.

## "TAINTED MONEY" FOR RUBBER BOOTS.

THE recent extended discussion over the propriety of the acceptance by educational, religious, and charitable institutions of donations from persons whose wealth has been obtained by methods morally indefensible, not only has rendered the term "tainted money" a familiar phrase, but has brought to the front other new considerations in ethics. Among other things, contributions to "election funds" are likely to be viewed in a different way by many people in future. In this connection we quote as something rather odd the following extract from a letter to the New York *Sun*, by a correspondent whose guide through a rural district was a loquacious liveryman, full of information about the methods prevalent there for buying votes:

"The funniest thing about this election boodle," said he, "is, nine out of ten will buy rubber boots with it." On our way back to town, late in the afternoon, we met two old fellows, each carrying a brand new pair of rubber boots over his shoulders.



## LITERATURE OF INDIA-RUBBER.

ENSAIO D'UMA SYNOPSE ESPECIES DO GENERO *HEVEA* SOB OS Pontos de Vista Systematico e Geographico. Pelo Dr. J. Huber. [A reprint from *Boletim do Museu Goidi*—Vol. IV. (1905) Pp. 650-651.] [Pará: 1905.]

**D**R. HUBER, in this paper, has dealt with a vast amount of data bearing upon the genus *Hevea*, involving the details relating to no less than 21 species, enumerated by half a dozen authorities, and among other things considers their geographical distribution. Such work cannot fail ultimately to prove of much practical value, and Dr. Huber's essay carries us further toward a systematic understanding of the subject than any one work that has appeared hitherto.

HAWAII AGRICULTURAL EXPERIMENT STATION, HONOLULU. Press Bulletin No. 13. Rubber in Hawaii. [Honolulu: 1905.] [8vo. Pp. 11.]

THIS is stated to be "mainly a compilation from the extremely valuable monograph on the rubber plants of the world" by Peter Reintgen: "Die Kautschukpflanzen. Eine Wirtschafts-geographische Studie." This important German work, which was reviewed in THE INDIA RUBBER WORLD, June 1, 1905 (page 298), in addition to extensive statistics of rubber production in various countries, described the different commercial rubber species; and these descriptions have been judiciously condensed by Mr. Jared G. Smith, special agent in charge of the Hawaii experiment station, so as to form a "bulletin" sure to prove of interest to anybody in that region concerned about rubber culture.

RECHERCHES SUR L'EXTRACTION DU CAOUTCHOUC DES ÉCORCES et la Coagulation des latex dans les Mascarenhasia. Par H. Jumelle. (Reprinted from *Le Caoutchouc et la Gutta-Percha*, August 15 and September 15, 1905.) Paris: 1905. [8vo. Pp. 17.]

## IN CURRENT PERIODICALS.

RENTABILITÄT einer Guttaperchapflanzung für Privatkapital. By W. Kolbe.=*Der Tropenpflanzer*, Berlin. IX-9 (September, 1905). Pp. 519-525.

Observations sur l'*Hevea* dans le Sud-Annam. By Georges Vernet.=*Journal d'Agriculture Tropicale*, Paris. V-51 (September, 1905). Pp. 259-262.

Besuch Javanischer Pflanzungen—Vergleiche mit Samoa. (A visit to Javanese plantations; comparisons with Samoa.) By Hermann Fiedler.=*Der Tropenpflanzer*, Berlin. IX-10 (October, 1905). Pp. 559-577.

*Ficus elastica* in Angola. By J. Gofsweller, Loanda.=*Der Tropenpflanzer*, Berlin. IX-10 (October, 1905). Pp. 581-584.

Women's Work in Rubber Factories: Its Effect on Health. By Mabel Parton, agent for the Women's Educational and Industrial Union of Massachusetts.=*The Federation Bulletin*, Boston. II-6 (March, 1905). Pp. 186-189.

## OTHER BOOKS RECEIVED.

OS MOSQUITOS NO PARÁ. REUNIAO DE QUATRO TRABALHOS sobre os Mosquitos indigenas principalmente as especies que molestram o homem. Pelo Professor Dr. Emilio Augusto Geldi. Pará: 1905. [4to. Pp. 154+21 plates.]

THE fourth in a series of memoirs of the Pará Museum, in natural history and ethnography, is devoted to the study of the native mosquitos of the Brazilian state of Pará, and more particularly those injurious to man, including the *Stegomyia fasciata*, the mosquito which transmits yellow fever. The work is illustrated with 144 figures illustrating in detail the development through all the stages of life of the various species, and with colored plates showing each of 14 species largely magnified and in colors. Of the scientific value of the work we are not qualified to speak; as for the manner in which the book is put up, it compares favorably with any publication of any scientific institution elsewhere. We may add that after seeing these mosquito portraits we do not wonder at the high price of Pará rubber. The wonder is rather that men can be found to brave these pests in the rubber fields.

## OBITUARY.

**G**ENERAL WILLIAM H. SKIRM, of Trenton, New Jersey, died on the evening of October 7 at his home, No. 124 East Hanover street. He was born in Trenton, January 17, 1841, and at an early age was employed in the wholesale grocery house of Forst & Taylor, subsequently becoming a member of the firm, under the style of D. P. Forst & Co. He became interested in many important business concerns, being a stockholder in the Empire Rubber Manufacturing Co., of which he was for a number of years president, and also a stockholder in the Trenton Rubber Co. before the reorganization, and in the Trenton Oilcloth Co. For something like 25 years he was a director and important factor in the Trenton Banking Co. He suffered financial reverses in the crash that overcame Frank A. Magowan, in the Trenton rubber industry, for whom he had been a heavy endorser.

William H. Skirm in 1860 joined Company A, an independent military company which became subsequently part of the National Guard, State of New Jersey, and was successively lieutenant and captain. In 1900 he was made colonel of the Seventh regiment, and later on retiring was commissioned brevet brigadier general by Governor Voorhees. He was for many years active in politics as a Republican, serving for a number of years in the Trenton common council and for six years in the state senate, of which he was an influential member and for one year president. He was a delegate to two Republican national conventions and to many state and local conventions. He was an active member of the First Methodist Episcopal church, being for a long time treasurer of the church corporation and a superintendent of the Sunday school. For 20 years he was treasurer of Pennington seminary, under the direction of the Methodist Episcopal conference, and at the time of his death was secretary of the Ocean Grove Camp Meeting Association.

General Skirm is survived by his wife, a son, Captain William H. Skirm, Jr., and a daughter, Mrs. Robert H. Ingersoll. The funeral on October 9 was private, services being held at the Skirm residence and the interment in Riverview cemetery.

\* \* \*

THEODORE VAN RENSSLAER BROWN, treasurer of the Martin Cantine Co., of Saugerties, New York, died on September 29, in his fifty-fifth year. He was born in Columbia county, N. Y., and for a number of years was Canadian agent of the Goodyear Rubber Co. with headquarters at Montreal. The Goodyear Rubber Co. of Canada, Limited, were formerly the selling agents in Canada of the Goodyear Rubber Co. (New York). The title and good will were in time transferred to the Granby Rubber Co., Limited, who still keep the title alive.

## GUTTA-PERCHA FROM THE PHILIPPINES.

**T**HE *Nevada*, a sailing vessel, reached New York in July, 1903, chartered by the Sulu Trading Co. (San Francisco), trading in the Philippines, its cargo containing copal, mother of pearl, and 3 tons of Gutta-percha. Messrs. W. R. Grace & Co. (New York) advise THE INDIA RUBBER WORLD: "A portion of the lot of Gutta-percha mentioned has been sold, and we know of no later arrivals from the same source." A like report comes from London, where the Sulu company also placed some material. The Sula company inform THE INDIA RUBBER WORLD: "Our venture was a losing one, and the company is practically disorganized. So far as we are informed there is no India-rubber in the Philippine islands; there are quantities of gutta, but it does not find purchasers."



## THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

*By Our Regular Correspondent.*

IT has been my practice for some years past at this season of the year to give my readers some account of the rubber industry as existing in the particular part of Europe visited. At the request of our Editor to add to my former series of observations I noted this down as one of the subjects to engage my attention. However, I may as well say at once that the result is practically *nil*. If I was writing for the *Gun Maker's Journal* on the subject of revolvers, or for a tobaccoist's paper on the cultivation of the narcotic weed, I could find plenty of material, but as it happens the rubber trade was hardly at all in evidence. There are no rubber factories in Bosnia, the Herzegovina, Dalmatia, Montenegro, or Albanian Turkey, and the exigencies of rapid transit did not permit of any visits being paid to factories in Germany, Austria, or Hungary. Some of the inhabitants of the above countries may have possessed macintoshes or rubber boots, but I do not remember having seen anything of the sort in the extremely hot weather which prevailed all the time. From this point of view it is perhaps rather unfortunate that my tour occurred in the driest season for fifteen years and one of the hottest within living memory. At Serajevo, the very Mohammedan capital of Bosnia, I saw in a shop window advertisement cards referring to the galoshes of the Russian-American India-Rubber Co., of St. Petersburg, and the Liverpool Rubber Co. I may remark incidentally that the Servian language and alphabet being so closely allied to the Russian makes business more easy for the Russians than for the British whose language is not understood at all in the large area over which the Servian Croatian languages extend. You meet plenty of men in the Near East who own up to seven or eight languages, but English is not one of them. Recent statistics show that the value of British rubber goods exported to Bosnia is very trifling and owing to a quite recent change in personnel at the consulate in Serajevo I was unable to get any ideas as to whether an improvement might be expected. As regards Montenegro there was little in the appearance of the bronzed warriors of this mountainous land to warrant the assumption that the opening of a macintosh and galosh store in the village capital would meet with much financial success.

IN the last issue some detailed information was given with regard to a process for treating rubber scrap at present under trial in France. In case any confusion may arise as to the particular patent I may say that it is of French origin and is quite distinct from the French patent No. 345,926 granted to H. Pen-  
RECOVERY OF  
VULCANIZED  
RUBBER.
ther, a German. I might also say that the French patent No. 351,152 granted to Wilkinson, Gubbins, and Quin, in May of this year, has nothing in common with those just referred to. In reality it is the 1902 patent granted to R. R. Gubbins for his special machine for separating fiber and metal from old mechanical rubbers. It was found that the machine, though amply proving its value, could be improved in some respects and the name of Wilkinson and Quin were added to that of the original patentee in connection with the French and other foreign patents, the former of these gentlemen being a resident in France. The above will serve to put straight any misunderstanding which may have arisen as a result of my previous communication. Turning to the subject generally the editorial on reclaimed rubber in the September issue of THE INDIA RUB-

BER WORLD sums up the position appositely. At no previous time have the prices of scrap rubber ruled so high\* nor has the energy of collectors ever made itself so apparent. Of course a fall in the price of raw rubber might make a material difference in the activities of the numerous collecting agencies but it may be taken that the good old days when scrap rubber could be had for the trouble of removing are gone never to return. While goods bearing the names of well known continental rubber factories are commonly met with in our collectors' yards a good deal of British waste rubber goes to Germany and in connection with this foreign business there are financial backings which put some collectors in a much more favorable position than others. An article which is always in demand but of which the supply is limited is the diving dress. These have to be carried by every man-of-war though I don't know what the case is with regard to other sea going vessels. The best rubber is used in their manufacture and the discarded goods do not usually show much sign of deterioration.

SECRET processes in connection with rubber are often brought before the uninitiated as being a rapid means of acquiring wealth. The latest thing of the sort which has come  
PONTIANAK.
under my ken is the suggestion to extract the rubber from Pontianak by means of a chemical process. I have nothing personal against the inventor or the process; I am merely skeptical as to how the operation can be made a commercial success taking into account the cost of chemicals, labor, etc., and the low value of the rubber recovered. I am informed that a well known cable company has paid a considerable sum for the right to use the process and is perfectly satisfied with the deal. At the same time I know of other capitalists who after having experiments conducted came to the conclusion that the prospects of wealth to be obtained by working it were altogether illusory. As regards its resinous and rubber contents Pontianak is much on a par with potato rubber, or *Euphorbia* gum, as it is also called, and it is difficult to understand how the small amount of rubber present in either case can pay for its extraction unless the resins are found to have a good market value.

A WRITER in our London contemporary, in discussing the disadvantages of the cold cure, recommends the wider adoption of the chloride of sulphur vapor cure. In  
VULCANIZING  
WITH CHLORIDE  
OF SULPHUR.
my experience this has been employed mainly in two cases, viz.: tobacco pouches and dress preservers. In the former case uniform results were always obtained, but with the latter this was not so easy of attainment, and now and again considerable trouble arose through acidity developing. Of course the ammonia treatment now so generally adopted may be an entire preventive of this, but all the same I don't think there is any disposition on the part of manufacturers to adopt the chloride of sulphur cure except where it is necessary. In the case of the tobacco pouch the rubber is thicker than in the dress preserver and the vulcanization effected is but skin deep. In applying the process it is usual to have large rectangular cupboards made of wood with sliding front doors; the pouches are hung on wooden rods and there are steam pipes underneath to evaporate the chloride and keep the temperature up to the necessary de-

\* This relates of course to the British market, and not to the American.—THE EDITOR.

gree. Some years ago in certain cases where it was considered necessary to cure in the cold it was customary to use some strong nitric acid to volatilize the chloride; but of course this was a chemical requiring very careful use and it is not now I believe to be met with in this connection. Metal work soon gets corroded by the chloride and especially is this the case with galvanized iron; other objections to the chloride are its small and corrosive vapor and there is but little disposition to extend its application. A good many tobacco pouches are now made of sulphured sheet and vulcanized in steam; especially is this the case with the well known Crocodile red pouches of Messrs. Warnes. It is generally recognized that the steam cured pouch is more lasting than the vapor cured, especially as regards liability to split at the joints. The advocate of the vapor cure admits that African rubbers require more chloride than does Pará and I should think that the difficulty in the way of deciding what is the right amount to use is against the process. All my experience of the vapor cure has been connected with fine rubber alone and here the results were always sufficiently uniform.

AN interesting article appears in the last issue of this Journal relative to dust removed by the vacuum process. This has now become firmly established in England, more particularly perhaps among the larger householders to whom the item of expense is not a matter of great importance. In the towns, it may be mentioned, some little trouble has arisen because of people objecting to the thumping of the machinery while the house cleaning is in progress. The point, however, which I mainly wish to refer to is the suggestion that rubber hose has a large field of development, not only with regard to vacuum cleaning but especially in the way of laying dust in coal mines by the water spray. At first sight the idea seems an admirable one; it would undoubtedly tend to lessen the dangers of fiery mines, but then there is the new and dreaded disease ankylostomiasis, or miner's worm, to be considered. This has long been prevalent in certain German mines and of late years has caused British mine inspectors a good deal of anxiety. In order to combat its powers of evil it is recommended to keep the workings as dry as possible, so it will be seen that the enthusiast in mine hygiene is on the horns of a dilemma. As regards street watering in towns the water cart in general use in England does not bring much grist to the rubber manufacturers' mills. In the large continental towns I recently visited, notably Vienna, Budapest, and Agram, the street watering is all done from stand pipes to which are connected long lengths of rubber hose. In the Bosnian towns is to be seen the somewhat primitive arrangement of a water barrel on wheels behind which a man walks with a hose-pipe fitted with a hose. In Montenegro dry sweeping is occasionally indulged in, but the fastidious might urge with truth that a water cart of some sort would greatly benefit the principal street of the capital in dry weather.

ON information which appeared to me conclusive, I referred in the September issue of THE INDIA RUBBER WORLD to the retirement of Mr. J. K. Burbridge from the firm of Messrs. William Warne & Co., Limited, of Tottenham and Barking. Mr. Burbridge, however, informs me that he is still very much in existence in his old position and that the reports which had got into circulation had reference to a brother of his who had no connection with the India-rubber works. I must express my regret to Mr. Burbridge for the mistake, while nursing my resentment against certain parties who shall be nameless in that they were though doubtless unintentionally the cause of my falling into error. I may mention that Mr. Burbridge's withdrawal from the post of

scientific abstractor for the Journal of the Society of Chemical Industry was largely due to the other demands upon his time.

FROM what I can gather there is no chance of the proposed reduction of capital meeting with the assent of the preference shareholders. [See THE INDIA RUBBER WORLD, August 1, 1905—page 383.] It is necessary for £200,000 of preference capital to agree before the reduction can be carried out and the difficulty of the situation is augmented by the fact that the preference shareholders are to a great extent Irish. The excellent trading results shown by the company of course largely reduce the importance of the contemplated step, and it will probably be found that things will go on as before.

MESSRS. BOURNE BROTHERS, of Harpenden, have recently put down an extensive plant for making and repairing motor tires. They will also supply rubber strip, etc., to cycle repairers. It may be mentioned that a controlling interest in the firm as newly organized is held by Messrs. A. C. Baber & Co., of Bucklersbury, London, waste rubber merchants, whose name was mentioned in this Journal last month in connection with the bankruptcy of Mr. A. V. Stephens.

THE Unity Rubber Co. was registered in London September 12, with £33,000 capital in £1 shares (30,000 preferred ordinary and 3000 deferred ordinary). The directors are G. C. Mandleberg, H. L. Rothband, and S. L. Mandleberg, all connected with J. Mandleberg & Co., Limited, of Pendleton, Manchester. The object is to acquire and operate the plant of The Hyde Rubber Works, Limited, at Woodley, Cheshire. The fact that this property has been taken over by Messrs. Mandleberg will not surprise a good many in the trade as it has for some time been thought probable. The well known waterproof firm have for some time been looking out for suitable premises in which to carry on the mechanical rubber industry and their business reputation should enable the new Unity Rubber Co. to achieve greater success than has of late years been associated with the Woodley factory.

THE following paragraph in the London correspondence of a Lancashire paper of some note is so interesting that it seems worthy of reproduction in full:

AN ITEM OF INTELLIGENCE. A CURIOUS TRADE.—A curious form of money making is adopted by a London firm. Ragpickers and others bring them goloshes and rubber heels that have been thrown away. These are sent to America to be converted to other uses, the Gutta-percha of the goloshes being especially adaptable after a secret process of treatment.

It is noteworthy that whenever the staff of a daily paper get on the subject of rubber they usually fall into egregious errors. It may be the samewith other technical matters, and my experience of the rubber scribe will make me cautious as regards technical news generally. I remember discussing the Pacific cable a few years ago with a leader writer on a daily paper, and advised him to submit his proof to me for correction. This, however, he omitted to do, and I was not surprised to read some comments on the cornering of India-rubber at Singapore. There is no need to multiply instances such as this, they are too common; but it is permissible to express regret that the general writer is so careless in seeking assistance when he is dealing with topics which he does not understand.

AIR BRAKES.—An official statement from Washington mentions that 1,845,304 locomotives and cars were in use on American railways on June 30, 1904, of which 1,554,772 were provided with air brakes, calling for very much rubber hose.

DUNLOP  
PNEUMATIC  
TYRE CO.

NEW  
FIRM.

HYDE  
RUBBER WORKS.

EXTENDED USE OF  
RUBBER HOSE.

MR. J. K. BURBRIDGE.

## CLEANING BUILDINGS BY SAND BLAST.

**I**N a previous article THE INDIA RUBBER WORLD described the various methods employed in cleaning carpets, furniture, and the interior walls of houses by means of the vacuum and compressed air processes. It was shown that by the use of certain apparatus all the accumulated dust was literally pulled out of its place of lodgement and whisked away through a line of rubber hose to a receptacle outside of the building without causing the housewife or the occupant of the offices where the work is done the slightest inconvenience.

For cleaning the exterior of buildings an entirely different process is necessary, for something beside dirt and dust must be removed from the stone surface. In order to give the building that has been exposed to the storms and the sunshine for 15 or 50 or more years a fresh, clean appearance, similar to that which it had when first erected, the surface must be scoured with sand. Previous to the invention of the sand blast attempts were made to remove the marks of the weather by scrubbing the stone with soap and water or with chemicals in which acids had been dissolved. The results were not usually very satisfactory. The surface was often left streaked and discolored so that its appearance was worse than before.

It was quite evident to architects who had studied the matter that a different process would have to be employed if the work was ever to be done in an artistic and satisfactory manner. It was a long time, however, before human invention hit on the right way of accomplishing it.

For many centuries the Arab in crossing the desert with his camels had looked upon the monuments of the ancients and had seen that the sand which was blown hither and thither by the winds was gradually cleaning and polishing their surfaces. This fact meant nothing to him because he was satisfied with his manner of life, and therefore made no effort to improve his condition. He would not know how to apply a scientific fact to the betterment of himself or his people.

But one day an American who was journeying across the arid waste saw what the Arab had observed, and it gave him an idea. If the wind can drive the sand against a stone and polish its surface, why couldn't compressed air be made to do the same thing? The more he thought about it the more certain he became that such a thing was possible.

When he arrived home in the United States he began work on an invention which finally became what is now known as the Sand Blast. It was a crude affair at first but was afterwards improved by scores of inventors until it is now very nearly perfect.

The first and principal use to which it was put was the removal of weather stains from the exterior walls of buildings. It did its work so quickly and so well that the men who brought it into use soon found that they had in their possession a big money making device.

There are now several companies in the field with sand blast cleaning processes. One of the most successful is the American Diamond Blast Co., of which Franklyn M. Wise is president, with offices at No. 114 Liberty street, New York. This company is the owner of the Shaver sand blast machine patents in the United States, Great Britain, Ireland, Germany, Austria, and Belgium.

The apparatus employed consists of a portable air compressor to which are attached as many lines of rubber hose as are necessary for the work that is being done. For eight nozzles

through which the sand is blown upon the stone surface five lines of  $\frac{3}{4}$  inch hose are necessary. After leaving the compressor the air is forced through a sand reservoir where it picks up a quantity of sand and forces it out of the nozzles at a pressure of 200 atmospheres. The sand cuts the surface of the stone and removes an infinitesimal layer of its substance and with it removes all stains, whether of weather or rust or other discolorating elements.

The men who operate the sand blast nozzles are specially dressed for the work. Over their heads they wear helmets to protect their eyes, nostrils, and face from the particles of sand which might otherwise cause them untold agony. Over their hands they wear soft gloves, which must necessarily be pliable. The swing scaffold upon which the workmen stand is hooded above and below so that the flying sand will not fall on pedestrians passing along the street below. The sand is collected in the lower part of the hood and conducted through a canvas tube to the ground. On a large job 15 men are required to operate the portable plant. Each man can clean about 500 square feet of surface a day.

Much of the success of sand blast work depends upon the kind of sand used. Clean beach sand is not as effective as mineral quartz owing to the fact that it may contain particles of iron and moisture. If it contains iron the surface upon which the sand is used will after awhile become streaked with rust stains. The mineral quartz sand is, however, entirely free from iron and possesses greater cutting power because of the sharpness of the edges of the particles.

The American Diamond Blast Co. has during the past few months cleaned a number of notable buildings in New York. Among them are the Bowling Green building, the County Court house, the Hotel Majestic, office of J. Pierpont Morgan & Co., and the Alexander residence, at Fifty-eighth street and Fifth avenue.

The sand blast has many other uses besides cleaning the outer surfaces of stone buildings. It is employed to remove barnacles from the bottoms of ships and rust scales from iron bridges. The Erie Railroad Co. recently had all of the bridges on its line between New York and Port Jervis cleaned by this process.

It is also used to get a proper surface for holding concrete when laying foundations in damp places below the level of the ground. It removes moisture, grease, or dirt that may be upon it and thus give the concrete a chance to get a grip on the rock. Another use to which the sand blast is put is bonding copper bonds to steel rails in laying electric railroad tracks.

Without doubt other ways for utilizing the sand blast will be discovered from time to time. Already the demand for rubber for this new use has become important, and it may reasonably be expected to grow in extent. FRANK L. BLANCHARD.

**VULCANIZATION.**—Ex-Governor A. O. Bourn, president of the Bourn Rubber Co. (Providence, Rhode Island) has for several years past been trying a great variety of experiments in vulcanization. To show the range of his work, two extremes may be noted. He has certain samples of compounded rubber containing no sulphur, that were left in dry heat 211 days at a temperature of 105° F. and which were thoroughly vulcanized. The antithesis of this was a compounded stock that vulcanized in dry heat in  $\frac{1}{4}$  minute at 286° F.



## WOMEN'S WORK IN RUBBER FACTORIES.

**A**N investigation of injurious and dangerous trades in which women are employed is being conducted by a joint committee of the Massachusetts State Federation of Women's Clubs and the Women's Educational and Industrial Union of that state. A recent issue of *The Federation Bulletin*, the organ of the associations mentioned, contains a report by Mabel Parton, the agent of the committee, on "Women's Work in Rubber Factories: Its Effect on Health," which will be briefly summarized here.

The investigation related to twelve rubber factories, engaged in the production of (1) shoes, (2) garments, (3) light rubber goods, and (4) hose. Mention is made of "whatever has been observed which may have hygienic significance—conditions peculiar to special processes and others common to nearly all women's work on rubber."

All but a few of the women in the factories reported on handle compounded rubber before vulcanization, and these compounds include oxide of lead or similar material. As none of the factories visited provided lunch rooms, and not all of them furnished adequate washing conveniences, many of the women ate their noonday meal at the work benches without first having washed their hands.

"In a few processes," says the report, "the women take the material into their mouths. Makers of footballs 'finish off' by sucking the air, and incidentally bits of waste from inside the balls to make them lie flat. I find also that girls in the picking room at one of the factories assist with their teeth in picking off scraps of good rubber from the 'wobs' of cements, varnish, and waste discarded in the cutting and making rooms. Some of the girls at several factories have acquired the habit of chewing the soft rubber."

Fumes of naphtha pervade the air of the work rooms, the soft rubber out of which many articles are made coming to the workers who finish them, already stamped or cut into shape, the parts being pressed together by hand and united with a cement in which naphtha enters. "There has been some reason to fear," says the report, "that manufacturers are using carbon bisulphide with the naphtha for heavier cement, but I have been unable to detect it in any of the factories I have visited." The naphtha fumes are present, however, in nearly all of the women's rooms, and those who do not actually use the cement—garment stitchers, for instance—work in rooms where the cement is used by others and breathe in the gas all day.

"The women who make light rubber goods," it is said, "constantly inhale a fine talc dust. The talcum is used to keep small parts from sticking to the hands, or to each other when they are packed for vulcanizing, and is so fine that it flies at a touch.

"The shoe making seems to necessitate a pressure against the bodies of the workers. The parts of the shoe are laid over a wooden boot form and the soft edges of the rubber are pressed together. In doing this the maker pushes the form hard against her body—first the heel and then the toe is directed against the pit of her stomach. Some of the women wear pads of cloth or leather to protect themselves, but these shields are soft or soon become soft, so that while friction may be prevented, the pressure is not diverted from the one small spot."

Mention is made of the custom in most of the factories visited of women working practically throughout the noon hour, either to get out earlier at night, to finish their "tickets" during the day in case of slow hands, or to make extra wages. Whatever the object, however, the workers over time lose the

fresh air and relaxation in the middle of the day.

Miss Parton was struck with the pallor of the rubber factory women, and from talking with them she learned that they often suffer from headache, nausea, and loss of appetite when they first begin work in rubber factories, and that while the symptoms apparently may pass in a few weeks, they are likely to recur on a return of the workers after an absence. Some of the girls with whom Miss Parton talked never feel quite well while they are at the work. Seventeen physicians in rubber factory towns were interviewed, most of whom have found common among rubber factory girls special diseases due particularly to (1) fumes arising from manufacturing processes, (2) the pressure of the boot form, and (3) the lack of proper nooning.

One of the physicians who has had a large practice among rubber factory operatives for the past 25 years, as well as among operatives from a twine factory nearby, finds that the women from the rubber factory suffer to an unusual extent from anæmia, with resulting dysmenorrhea, and attributes this from fumes that are breathed in during working hours. Dr. Fred-eric Coggeshall, as physician in charge of the nervous clinic of the Boston Dispensary, told Miss Parton that he found that one-thirteenth of all the factory girls treated worked in some branch of a rubber factory; that certain forms of functional nervous diseases are very prevalent among this class; that these complaints are closely connected with their breathing the fumes of naphtha and carbon bisulphide. He believed the work to be decidedly injurious to health, and so far as the marked symptoms go that chronic poisoning with these objectionable gases, especially perhaps the naphtha, is the principal cause.

With regard to a modification of the conditions outlined, it is pointed out naphtha fumes can be carried off through registers placed in the floor and connected by pipes with suction fans, as has been proved by one rubber factory in Massachusetts in a garment room where large quantities of very heavy cement are used. Talcum powder could be treated in much the same way, though troughs at the back of work benches, such as are to be found at hand sorting rooms in flax mills, would be better for the making rooms than the floor register.

"Shoe workers," it is said, "could be greatly relieved of the pressure of the boot form by use of proper shields. The shields sold by one of the shoe factories to its employes are right in principle, but they do not stand wear. They are made of stiff leather and slightly concave, so that the part which comes directly over the pit of the stomach scarcely touches the body, and pressure is thus diminished and distributed. But leather gives way quickly and becomes soft at the pressure point. A shield built on this principle, of material which would bear the strain, should answer the purpose. It is not necessary in any of the work to put the rubber into the mouth, and the rubber chewing habit is of course, under the control of employes."

It is pointed out that the conditions of eating with unwashed hands and working at noon are only partially within the control of the employes. Even if noon time work is nominally optional, it may be actually necessary, owing to the size of the tickets given out, in connection with the speed of the operatives. It is at present against the law in Massachusetts for a woman or minor to work during the midday recess, but the law is practically inoperative among the hand workers because it fails to fix responsibility for its enforcement. Miss Parton advises the repeal of the law which exempts employers from responsibility for work done by women and minors at noon time.

DRAWING FOR A PAIR.—Lost—On the Clifton pike, one rubber boot. Will buy or sell.—*Versailles (Kentucky) Sun.*



## CAUCHO AND "CASTILLOA ULEI" WARBURG.

By Dr. Werner Esch (Hamburg).\*

OPINIONS as to the tree yielding the so-called "Caucho," or Peruvian balls, of commerce have heretofore been very much at variance. It was supposed by some that *Hevea*, *Cameraria latifolia*, and *Hancornia speciosa* yielded the Caucho,† while Henriques‡ cited reasons which made him doubt the existence of either *Hancornia* or *Castilloa* on the eastern slopes of the Andes. The recent explorations of Dr. Ule have established beyond a doubt that *Hancornia speciosa* exists on the eastern slopes of the Andes, in the Amazonas district of Brazil, and on an area much larger than heretofore supposed; and, also, that Caucho is obtained from a species of *Castilloa* heretofore unidentified. This species was named *Castilloa Ulei* by Dr. Warburg.§

In Ule's description of the manner in which raw Caoutchouc is gathered, I notice the singular statement that supposedly the larger part of Caucho, after its separation with a soap solution, is formed into *planhas de Caucho*—broad, flat cakes, and that some of the *caucheros* coagulate the latex by exposure to the air. Rolled up strips of this Caucho are placed on the market as a higher priced *sernamby de Caucho*. So far as I have been able to inform myself by reading, and by what I have gathered by conversation with presumably informed persons, Peruvian rubber is put on the market principally in the form of balls, in Hamburg and in all other markets. The balls are generally, though not always, in form of lumps wound with strips, giving them a characteristic appearance. The inner part of the ball, on being cut through, shows also a characteristic conglomeration of more or less pale layers. This layering is found not only in the Peruvian slabs; more prominently is the similarity noted between Peruvian balls and those originating from *Castilloa elastica* in Ecuador, and Colombian balls and sausages.

This relationship is not confined only to the superficial appearance but also to the chemical data of washed samples and to the nearly identical rapidity of vulcanization. Further, it is not a single *Castilloa* species|| but it is stated that quite a number exist which furnish the Caoutchouc of this kind. The similarity is not a new discovery of mine, but is well known in the trade. This is furthermore endorsed by a published statement:¶ "The physical characteristics of Caucho in the main are the same as in the Central American rubbers."

The statement made by Ule, that the "*planhas de Caucho*" are formed by simply coagulating the latex with soap and vegetable juices cannot, on account of the well known appearance of Peruvian slabs, be accepted unconditionally, because, when cut, their resemblance to those of balls is too apparent. About a year ago I had an opportunity to obtain for a rubber factory here a lot of Peruvian balls, which lot contained, besides the normal balls, exceptionally large loaves—a description of which I deem advisable here, to make the reason of their presence more clear. Ule's description of the manner of obtaining Caucho would be in excellent accord with the appearance of these loaves.

The above mentioned crude rubber firm imports from year to year large quantities of Peruvian balls, but the official of the firm from which I obtained the lot had never, in many years' experience, seen similar loaves in Peruvians, neither in slabs, and others of whom inquiry was made had never known such loaves to exist, which in quality were far superior to the regular Peruvians. The loaves were, in size and shape, like the ordinary Matto Grosso Pará, possessing also the faint cheese odor of Matto Grosso Pará, which after vulcanization changed into the pleasing odor emitted by bread in process of baking. On being washed a loss of 26 per cent. was noted, the compact blocks, which had only small traces of admixed dirt, containing a quantity of water. The cut surface did not show the yellow spots generally found in Matto Grosso Pará. The large black beetles, with their hard shell wings, which cause so much annoyance in washing, were also absent. The appearance and characteristics of the washed loaf Peruvian were of such similarity of Matto Grosso Pará as to eliminate all doubt of its being readily worked up as Matto Grosso Pará, even in respect to the more rapid vulcanization which Matto Grosso Pará possesses over regular Peruvian.

It is hardly necessary to mention that this irregular Peruvian consignment found ready takers and that endeavors were made to obtain regular consignments of this fine material, but, to the best of my knowledge these have been in vain. It may also be mentioned that in the same lot were some pieces which had to be designated as slabs; this seems to me to be of importance in order to judge correctly the matter in question, because it convinces me all the more that the loaves and slabs are not of an identical nature. Slabs are inferior to balls.\* The loaves are no doubt much superior to the best Peruvian balls.

I would like to meet here the objection made that at times Peruvian balls possess also pale outer skins. In the first place this occurs rarely, and secondly these skins are materially darker than those of the before mentioned loaves and of Matto Grosso Pará. It is most likely that in my large circle of readers these lines will come before the eyes of some one prepared to shed some light on this subject. For the sake of curiosity it may be mentioned here that an English firm—i. e., its representative—contends that Caucho and Peruvian balls are not alike, but that Caucho is the prime quality and Peruvian *quasi* a second quality. Of course the poor buyer is expected to believe this and to take without hesitation, at a higher price, "Caucho balls" instead of "Peruvian balls."

Like a rare bird, some time ago, a lot of smoked Colombians arrived here—a *Castilloa* Caoutchouc of light yellow-brown color, of pleasant odor, and easy of vulcanization. The Caoutchouc consisted of balls of about 50 kilograms in weight, which seemed to have obtained their shape by having been treated in the same manner as ordinary Peruvian balls—strips of Caoutchouc and some adhering pieces of wood being, like intestines, pressed together, after which the large lumps were sewed in bast mats and smoked like hams. The cut surface of these lumps resembled much the cross section of Peruvian balls, with the difference that in these Colombians the outlines of the several Caoutchouc strips were light yellow and therefore very indistinct. No information could be gained from the English importers in regard to this beautiful lot, except that it was just

\* Translated from *Gummi-Zeitung*, Dresden. Jahrg. XIX (1905). P. 1129.

† Franz Clouth, "Gummi, Gutta-percha und Balata." Leipzig: 1899. P. 78.

‡ "Der Kautschuk und seine Quellen." Dresden: 1899. P. 13.

§ *Gummi-Zeitung*, Dresden. Jahrg. XIX (1905). P. 962. [Also THE INDIA RUBBER WORLD, May 1, 1905. P. 259.]|| In American dissertations *Castilla* instead of *Castilloa* is often used, and the former, it is claimed, is the more correct.

¶ Henry C. Pearson, "Crude Rubber and Compounding Ingredients." New York: 1899. P. 13.

\* See Henry C. Pearson. P. 13.

by chance that such a fine consignment had got into the market, and no hopes were entertained of seeing a like one within the near future. The process of smoking had left but little water in the Caoutchouc and the loss in washing was just 10 per cent. The color of the washed skin was like that of Pará, and had an agreeable smoke odor, quite different from that of Pará.

With these statements I endeavor to pursue the object to arouse those who are influential in gathering *Castilloa* Caoutchouc of so valuable, dry, not foul smelling quality, to produce these sorts for which the rubber manufacturer finds a larger field of application, their light color being of especial value in the manufacture of colored rubber goods. The manufacturers pay for such *Castilloa* Caoutchouc materially higher prices, and therefore, the careful preparation of the Caoutchouc milk will certainly pay well for the extra care.

\* \* \*

WHAT are described as "loaves" (*brots*) in the preceding article refer evidently to the form of Pará rubber described in English speaking trade circles as "biscuits" or "hams" being the aggregations of rubber coagulated by the smoking process on wooden paddles and sometimes attaining a very large size. The word "loaves", however, is not a common trade designation in England or America. It does not seem to have been proved by Dr. Esch that the unusually excellent lots of rubber mentioned by him as coming from Peru and Colombia were derived from trees of any *Castilloa* species. As is well known, considerable *Hevea* rubber is now derived from Peru, and the similarity noticed of Peruvian lots to "Matto Grosso Pará" indicates that certain rubbers referred to may not have been *Castilloa* rubber at all, but *Hevea*. Likewise the excellent Colombian rubber may have been from some species of *Sapium*. Or, it may have been *Castilloa* rubber from planted trees, the owners of which coagulated it with unusual care, comparable with that which the planters of Ceylon and the Malay States give to the latex of *Hevea Brasiliensis*. While Dr. Esch leaves a number of points in relation to *Castilloa* rubber unsolved, the rubber trade is to be congratulated upon the fact that investigators of his ability are devoting so much energy to efforts to determine the sources of commercial rubber and the conditions under which it is prepared for market.—THE EDITOR.

#### CRUDE BALATA DUTIABLE.

THE collector of customs at the port of Norfolk assessed for duty, at the rate of 35 per cent. *ad valorem*, an importation of so called "sheet Balata" made by Castner, Curran & Bullitt (New York), who filed a protest, claiming the material to be entitled to free entry. The United States general appraisers at New York assume that the collector's assessment of duty was by virtue of the supposed similitude of the merchandise to manufactures of Gutta-percha or what is known as hard rubber, while it is evident that the claim of the protestants of free entry is upon the assumption that provision for crude rubber includes crude Balata. The appraisers' decision says:

The evidence before us submitted on behalf of the protestants, and not controverted by the government, is that the Balata in question is in the crudest possible form in which Balata is produced. It appears that the so-called sheets are obtained by tapping the Balata tree and permitting the sap to run or drop on a palm leaf or board, and, after the sap is thus spread out on the palm leaf or board, exposing it to the sunlight and permitting it to dry. The merchandise is not advanced beyond this process to fit it for any particular purpose—in short, nothing has been done to constitute the Balata a manufactured article.

The collector's classification and the importers' claim evi-

dently are based upon the idea that Balata is so much akin to rubber that for tariff purposes they are the same. The board holds, however, that while they are sufficiently alike to warrant the application of the similitude clause to articles manufactured from Balata there is a marked difference between Gutta-percha, India-rubber, and Balata, in the crude state. This difference was set forth in a decision of the general appraisers (G. A. 5098—March 13, 1902), in which decision it was also held that Balata sheets fitted for such goods as dress shields were dutiable at 35 per cent., on account of their similarity to Gutta-percha wares, no provision existing in the tariff schedule for Balata. [See THE INDIA RUBBER WORLD, April 1, 1902—page 230.] But even if the various substances named were sufficiently similar to warrant the application of the similitude clause in the event of crude rubber being subject to duty, this would not justify the application of the similitude clause in this instance because crude rubber is in the free list. The appraisers, therefore, hold the collector's classification to be erroneous; since crude Balata is not elsewhere provided for in the tariff it must be regarded as an unmanufactured article not enumerated, dutiable at the rate of 10 per cent. *ad valorem* under the provision 6 of the tariff act of 1897.

Members of the trade interviewed by THE INDIA RUBBER WORLD intimated that importers of block and sheet Balata would protest this duty, though no action would be taken by any one until he had made an importation and a duty had been assessed. It is not doubted that the framers of the tariff act regarded Balata as included in "India-rubber and Gutta-percha," and therefore entitled to free entry, but the customs authorities having decided that Balata is neither India-rubber nor Gutta-percha, and Balata not being specified in the "free list," evidently the appraisers have no choice but to assess the 10 per cent. rate as above reported.

#### THE NEWEST ATLANTIC CABLE.

THE fifth transatlantic cable of the Commercial Cable Co. (New York) has just been successfully laid, the final splice having been made off the coast of Ireland on October 6, by the cable ship *Colonia*. The new cable is reported to be of the best and most expensive type of submarine cable ever laid. It was manufactured by the Telegraph Construction and Maintenance Co., Limited (London), having been begun in March last and shipped on board their 7976 ton steamer *Colonia* on August 5. Atlantic cables are laid from west to east, because of the direction of the prevailing winds, and ships make better speed going eastward. This is why the *Colonia* began laying the cable from the Nova Scotia coast. On October 3 she arrived at a point 187 miles from the coast of Ireland, where the final splice was to be made with the cable previously laid from the Irish coast by the steamship *Cambria*. At some points the new cable was laid at a depth of nearly three miles below the surface of the sea. The quantities of material used were 1,411,200 pounds of copper; 799,688 pounds of Gutta percha; 16,845,000 pounds of brass tape, jute, yarn, iron wire, and preservative compound. The cost of the cables varied from \$1000 to \$6000 per mile, according to the different requirements at different depths and character of the ocean bed. The signal and speed of this cable is said to be 15 per cent. greater than that of any other cable of equal length in the Atlantic. The two transatlantic cables of the Deutsche-Atlantische Telegraphen-Gesellschaft between Germany and New York work in direct connection with the lines of the Postal Telegraph Cable Co., which gives the system 7 ocean lines, all duplexed so that their combined capacity is 14 messages at one time.

## RUBBER CARGO LOST ON THE AMAZON.

THE Booth line steamer *Cyril*, bound from Manáos for Liverpool, with 210 tons of rubber on board, was lost on the Amazon on the morning of September 6, in a collision with the steamer *Auselm*. The occurrence was in the bay Currallinho, near the town of the same name on the great island of Marajó, and about 93 miles above Pará. Both ships were under the control of Brazilian pilots, who seemingly misunderstood the signals given while rounding a small island, and the result was that both ships steered for the same point, and before the *Cyril* could cross the bow of the *Auselm* she was rammed, and sank within 45 minutes in about 70 feet of water, capsizing as she went down. The *Auselm* was seriously damaged and had to put back to Pará. No passengers were lost or injured, and no passengers' effects were lost. The *Cyril's* manifest showed the following details regarding the rubber carried:

SHIPPERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Scholz & Co. ....	58,680	12,387	20,802	3,600	95,469
Dusendschön & Co. .	31,628	8,985	829	41,137	82,579
Aldebert H. Alden. .	17,020	3,075	5,290	205	25,590
Ahlers & Co. ....	4,056	91	567	....	4,714
J. H. Andresen, Suc.	1,440	160	690	....	2,290
Total. ....	112,824	24,698	28,178	44,942	210,642

The Booth company advise THE INDIA RUBBER WORLD: "The latest information we have is that the Liverpool Salvage Association were sending out the steamer *Ranger* in the hopes of salvaging the rubber cargo on board the *Cyril*. We understand that they have with them all the modern appliances for this class of work."

There was no perceptible fluctuation in the New York market for Pará rubber on account of the loss of the *Cyril*. The price stiffened in England for a few days, but did not hold.

## PERILS OF NAVIGATION ON THE AMAZON.

[FROM "FOLHA DO NORTE" (PARÁ), SEPTEMBER 18.]

THE *Cidade de Manaus*, the despatch boat belonging to the Amazonas government, entered our port yesterday at 1 P. M. The voyage was anything but auspicious, for, besides running aground, the vessel was in danger of foundering. While crossing from Catahú to Cossary, the boat encountered a severe storm, resulting in serious damage to the commander's cabin, which made it necessary to strengthen it by means of cross-beams. The *Cidade de Manaus* battled with the severe storm for 20 minutes.

After passing through this first peril, the despatch boat continued on its course until 9 P. M. on the day before yesterday, when it ran aground at a small distance below the island of the Mucuras, but on this occasion escaped sinking. The *Cidade de Manaus* was in this dangerous position when the *Cassiporé* passed. It was decided to ask for assistance and a boat was despatched for that purpose. While all those on the *Cidade de Manaus* expected the *Cassiporé* to render some assistance, her captain sent word that he could not do so, as he had no time to spare. The *Cassiporé* thereupon continued on its course, leaving the boat in its dangerous position.

Later on, the *Fagundes Varella* passed by, and was asked for assistance. Her captain at once stopped his engine and sent a boat to inquire what had best be done. When he had been advised of the circumstances, it was agreed that the *Fagundes Varella* should cast anchor and wait until the next day, to see whether the *Cidade de Manaus* would get off of her own account.

If he was able to do so, the captain of the *Fagundes Varella* was to receive 1000 milreis [= \$334.60, exchange at 17 pence], while, if it should become necessary to take the *Cidade de*

*Manaus* in tow, 2000 milreis were to be paid. Happily, at about 2 A. M. yesterday, the boat was floated through her own efforts, and the *Fagundes Varella* continued on her voyage during the morning.

The *Cidade de Manaus*, which came under the command of Mr. Francisco Antonio Ozorio, was steered by the experienced Amazonas pilot, Mr. Raymundo Cunha.

## BRAZILIAN TAX COLLECTORS FIGHT OVER RUBBER.

THE Amazonas despatch boat, *Cidade de Manaus*, had on board Colonel João Baptista Faria e Souza, collector of the port of Manáos, and Dr. Amaro Bezerra, a well known lawyer, whose visit to Pará was for the purpose of discussing the matter of the India-rubber which had come in transit on the *Eurico*, the Amazonas revenue department claiming the said rubber as the property of that state, while it was also claimed by the Federal territory of Acre.

The *Eurico* also arrived at Pará on September 17, carrying 21,687 kilograms of rubber, consigned to Messrs. Leite & Co. and Cerqueira Lima & Co.—there being 19,175 kilos of fine, 350 of coarse, and 2162 of Caucho.

On board the *Eurico* were, besides Mr. Angelo Boyma, the custom house guard in charge of the second fiscal of Iquiry, Acre; Mr. Cyriaco Muniz, a treasury accountant, attached to the collector's office at Manáos; and the guard of the same district, Mr. Miguel Archanjo Monteiro, who had the rubber in their care. The rubber was stowed away in the two compartments of the hold of the vessel, the hatchways being duly sealed, as was verified by the custom house officers of Pará, when they boarded the vessel.

According to the Manáos journal *O Amazonas*, this rubber was taken on board the *Eurico* at port Cachoeira, on the river Purus, near the town of Labrea, Brazil, from the lighter *Bolívar*. The bill of lading gave the river Iquiry, a tributary of the Acre, as the source of the rubber, but it is claimed at Manáos that the point on the Iquiry referred to could have no communication with any locality reached by the lighter *Bolívar*. It is said that the hold of the *Eurico*, in which the rubber was stored, was sealed not far from Labrea by a person claiming to be a Federal fiscal agent of Acre.

A question regarding the rubber being raised at Manáos, Messrs. Leite & Co., owners of the *Eurico*, asked the port collector to clear the vessel and offered a deposit to cover the Amazonas state duties, in case the rubber should prove to have been gathered in that state. But the Manáos authorities replied that the rubber was not of doubtful origin; it came from Amazonas state, from a point north of the Acre boundary line. The captain of the *Eurico*, having allowed a fiscal employé of the Acre district to come within the limits of Amazonas and seal the holds of the steamer, is liable to be held as a participant in the smuggling of the goods and the penalties therefor. The rubber in dispute having been shipped as coming from Federal territory (where the export tax is 15 per cent.) though held at Manáos to have been produced in Amazonas state (where the export tax is 23 per cent.), was claimed to be smuggled goods, and treated accordingly.

\* \* \*

THERE is constant friction between the Amazonas state and the Federal district of Acre over rubber export dues. *Folha do Norte* reported recently the seizure at Manáos of 97,467 kilos of rubber on one steamer, claimed as a state product but which was found out to have come from Acre. It was necessarily shipped from an Amazonas port, in the absence of other facilities at the point of production, but this did not make it Amazonas rubber.



## THE COLORADO "RUBBER" PLANT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We have had brought to our attention as a possible source of rubber supply the plant known as "*Picradenia floribunda utilis*," "pingue," or "rabbit weed," which plant it is claimed is indigenous to the western states and territories. If the claims made for this plant are correct, we would be interested in determining whether or not it grows in those sections of the west tributary to our lines [Atchison, Topeka and Santa Fé railway]. Before attempting to ascertain this fact, we desire to secure such information as we can concerning any tests that have been made of the rubber from this plant, and it is to secure this information we are addressing you.

We presume you are thoroughly familiar with all the facts, and if you can find it consistent to do so, would be glad to have such information as you can give us along the following lines:

First. Whether or not, in your opinion, the commercial extraction of rubber from this source is possible.

Second. The quality of this rubber as compared with the various other grades of rubber in the market.

Third. The results of any tests that have been made on this product.

Fourth. The prices such rubber will bring in the various markets.

WESLEY MERRITT,  
Industrial Commissioner The Atchison, Topeka and Santa Fé Railway System.  
Chicago, October 9, 1905.

WE have followed with much interest and many times with amusement the claims of the western company promoters concerning the extraction of rubber from the plant known as *Picradenia floribunda utilis*. While it appears that this plant is very abundant throughout the southwest, it is yet to be proved to contain rubber in sufficient quantity to warrant its extraction. We have been open to conviction on the subject all the while but none of the interested parties in Colorado or elsewhere have brought forward the slightest proof that they have anything as worth while as yet. This plant, by the way, should not be confused with the "Guayule" plant (*Parthenium argentatum*) of Mexico, which is a rubber producer to an extent that makes its handling commercially profitable.—THE EDITOR.

## THE COLORADO RUBBER GAME.

THE arrival is reported at Durango, Colorado, of three carloads of machinery from Cleveland and Elyria, Ohio, for the use of The P. F. U. Rubber Co., mentioned in THE INDIA RUBBER WORLD (August 1, 1905—page 386) as having been incorporated in Michigan with \$250,000 capital to operate under a license to Edward C. Dunbar, from the American Crude Rubber Co., a Colorado corporation, to extract rubber from "rabbit weed" (*Picradenia floribunda utilis*). Of this capitalization \$175,000 is represented by the license. Mr. Dunbar is manager of the P. F. U. company; Bethune Duffield, secretary-treasurer, and J. D. Hudson president. All these are citizens of Detroit, Michigan. The Durango Herald says that Mr. Dunbar has "moved without undue haste in the matter of securing machinery," and it hopes that the experiments to be made will make the extraction of rubber "a fixed industry" in that section. A press despatch from Durango says: "This factory when complete will be the only plant in existence of its kind and will be capable of handling from 18 to 26 tons of the weed per day."

In response to a request for further information, Manager Dunbar advises THE INDIA RUBBER WORLD: "I beg to refer you to Mr. Frank R. Marsh, of Colorado Springs, Colorado,

who will give you such information as is deemed expedient to give at this stage of the game." Mr. Marsh is the gentleman who something more than a year ago promoted the American Crude Rubber Co., on a promise to have 10 factories making Colorado rubber, within 18 months, and who was active in selling shares of stock with the help of a show window in a Denver street containing samples of rubber goods stated to have been made of the Colorado product. So far as THE INDIA RUBBER WORLD can learn, manufacturers of rubber goods were never able to secure any rubber from Marsh, and efforts to obtain from him information for publication were unavailing.

## RUBBER STOPPERS AND APPENDICITIS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: It appears that Dr. Pond, of Liverpool, has published in the London *Lancet* a new theory with reference to the origin of appendicitis and other disturbances of the digestive organs. He calls attention to the fact that such ailments often can be attributed to antimonial poisoning and the source of the antimony absorbed by man is said to be the rubber rings used to close all sorts of bottles. Dr. Pond seeks to establish the fact that such rings consist of almost one-third their weight of antimony. He says not only is the antimony dissolved by the mineral waters containing alkalies and organic acids, but these rubber rings, as daily observation shows, soon become brittle and some of the compound falls into the contents of the bottle.

It may be noted that appendicitis is quite prevalent in the United States, where but little antimony cured rubber ever comes in contact with articles of food. Many persons have had the disease who never used any article that had antimony in it. The first case ever brought to my attention was in 1862 or 1863, which was before the date at which antimony began to being used in connection with rubber. The disease has existed no doubt for a very long period, but in old times the patient either got well or died without the assistance of the surgeon. Now, thanks to Lester and antiseptic surgery, as soon as a person has an ache in the right side below his ribs he has to be operated upon. Sometimes they find that he has appendicitis; sometimes even that the patient has no appendix.

Dr. Pond's article reminds one of an old writer upon Chinese metaphysics. When asked how he managed to write on this subject he said that he had read up on metaphysics and also on Chinese in the encyclopedia, and had put the two articles together. So far as the rubber men are concerned they need feel no anxiety over Dr. Pond's "red rubber" scare, since they can produce rubber stoppers and rings that will answer every purpose and that can be guaranteed to be free from antimony. I think that if no one should have appendicitis until it is caused by antimony in rubber the business of the surgeons will have a collapse.

S. P. SHARPLES.

Boston, Massachusetts, October 29, 1905.

## RUBBER FOR CHANNEL CEMENTS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am a reader of your Journal, and if it is not asking too much of a favor I would like to know what rubbers are best adapted to the manufacture of channel cements. I am experimenting on an article and channel cement answers my purpose best, owing to cost and adhesive qualities. I have tried red Massai, but it is not as strong as the channel cement on the market. Trusting you can give this information, and thanking you in advance for same, I am, Very truly yours,

V. D. P.

Akron, Ohio, October 17, 1905.



## PROGRESS OF RUBBER PLANTING.

## ANGLO-MALAY RUBBER CO., LIMITED.

THE prospectus of The Anglo-Malay Rubber Co., Limited, registered October 9, 1905, in London, with a capital of £150,000 [\$729,975] in £1 shares, sets forth that its purpose is to acquire and work certain Pará rubber estates in the Federated Malay States. Their aggregate area is estimated at 6331 acres, of which 1713 are under cultivation mainly in coffee and rubber. The estates are "Linsum," "Siliau," "Terentang," "Gadut," "Ayer Silolo," and "Ayer Angat," in the state of Negri Sembilan, and "Batang Kali" and "Ulu Yam," in Selangor. The four first named were amalgamated early in the year under the name Straits Rubber Estates, Limited, and now come within a larger scheme of amalgamation. The present vendor of all the properties is Herbert Wilford Brett, of Halliford, Middlesex (England), who accepts £51,000 in cash and £46,500 in shares. The first issue (London, October 16) was at par of 140,000 shares, including 46,500 to the vendor, 51,000 to produce the cash due the vendor, and 42,500 for working capital. The board embraces Sir Frank A. Swettenham, K.C.M.G., late governor of the Straits Settlements, and Mr. Arthur Lampard, of Harrisons & Crosfield, large tea and produce merchants of London, Colombo and New York. The prospectus reports the rubber trees planted on the properties as follows:

Sixteen to 20 years.....	250
Eight to 9 years.....	6,422
Seven years.....	6,081
Six years.....	34,150
Five years.....	34,615
Four years.....	3,561
Three years and under.....	120,900
Total.....	205,979

Mr. Lampard recently assured THE INDIA RUBBER WORLD of his strong confidence in the future of rubber cultivation in the Far East, regarding it as the most important future planting interest. He feels that important as is rubber already in Ceylon, it is destined to become still more so in the Malay States, partly for the reason that lands are available there for rubber which have hitherto not been cultivated, while much of the land in Ceylon already has been planted with tea or other crops. He considers the present output from the Malay States as large as that from Ceylon.

## MR. BURGESS'S VIEWS ON EARLY TAPPING.

MR. P. J. BURGESS, who recently was commissioned as "rubber expert" for the Federated Malay States, at the joint expense of the local government and the planters' associations, has returned to the Far East after a visit to Europe with a view to the study of certain rubber problems which could be pursued more satisfactorily there than at home. Stopping at Colombo, on his return, Mr. Burgess was interviewed by *The Times of Ceylon*, but was disposed to be reticent on the points covered by his studies for the reason that he did not wish to anticipate a report which he will make to the government. Mr. Burgess talked interestingly, however, on certain other points. He does not share the view that it is undesirable to tap rubber trees (*Hevea*) at four years of age.

"It is really a question for the planters to decide for themselves, but unless we can show some really bad result upon the tree by early tapping, I do not see why the tree should be left alone so long. I think you will find that there is no evidence whatever in support of the idea that early tapping puts too

much strain on the tree and drains it prematurely. If I had a plantation myself, I should certainly tap early. There is a good deal of evidence against the theory of the premature strain. You cannot easily kill the rubber tree."

"But the latex would yield inferior rubber?"

"It would not be fit for the best uses."

"Would not that affect the reputation of plantation rubber?"

Mr. Burgess does not see that plantation rubber has a "reputation." The prices, as he has already explained, are really in favor of the Brazilian rubber pound per pound of real rubber, after due allowance for the weight of the moisture in the South American product.

"Besides, I don't see how it could affect the reputation of plantation rubber, if it were distinctly sold as immature rubber. Such rubber has its uses and would certainly command a sale. Why not sell then?"

The suggestion with regard to leaving additional moisture in plantation rubber he said he had already fully dealt with in his communication to *The Times of Ceylon*. With regard to the possibility of artificial substitutes ousting rubber, Mr. Burgess will deal fully in his report.

## BELGIAN CAPITAL IN MALAY PLANTATIONS.

THE organization is reported at Antwerp of the Federated Malay States Rubber Co., to take over from the Kajang Coffee and Rubber Co., Limited (8, George street, E. C., London), of a concession for 999 years granted by the sultan of Selangor, in the Federated Malay States, comprising 2339 acres under the names of "The West Country" and "Belmont" estates, there being under cultivation 851 acres in coffee, rubber, cocoanuts, and nutmegs. The capital is 2,000,000 francs [= \$386,000] in 500 franc shares. The vendors receive 500,000 francs in shares and an equal amount of cash. The new company dates from August 3, 1905; the headquarters will be at Antwerp. The estates mentioned, together with others controlled by the Kajang Coffee and Rubber Co., Limited, have been under the joint management of M. Sidney Parry and E. B. Skinner, who are among the leading planters of the Malay States. Mr. Skinner is on the executive committee of the United Planters' Association.

## STRAITS SETTLEMENTS BOTANIC GARDENS.

THE annual report by Director H. N. Ridley, for 1904, mentions that the demand for plants and seeds of Pará rubber (*Hevea Brasiliensis*) was greater than the capacity of the gardens to supply. During the year 170,175 seeds and 28,665 plants were disposed of, 100,000 seeds going to the forest department of Lower Burma. A special appropriation was made during the year of \$1750 (silver) for experimental tapping of rubber trees, purchase of tools, and erection of a drying house. All trees of suitable size for tapping were numbered and registered with a view to a definite record of production under varying conditions being made for the benefit of planters. Altogether 1285 trees were registered and 880 were tapped, with the prospect that the amount of dry rubber would average one pound per tree of average girth at three feet from the ground of 3 feet 3 inches. It is mentioned that the yield of dry rubber averages less per tree than was pointed to by earlier experiments, but the most recent production averages 97 per cent. of dry rubber, whereas formerly the loss in washing amounted from 35 to 40 per cent., and it is considered that the higher market value of

the rubber produced now will more than offset the decreased weight. The Pará rubber tree mentioned in previous reports was again tapped fourteen times between July 28 and September 6, 1904, yielding 3 pounds 14 ounces of dry rubber, raising the total to 26 pounds 13 ounces for the nine consecutive years that it has been tapped—an average of nearly 3 pounds per year.

#### BUKIT RAJAH RUBBER CO., LIMITED.

REFERENCE was made lately in THE INDIA RUBBER WORLD (page 376) to the report of this important plantation company, in Selangor, Federated Malay States, from which it appeared that the sales of produce during the first year of the working of the company as now formed, exceeded all expenses, including new development work during the year, by £95, which was regarded as a favorable showing. At the beginning of the year covered by the report, there were growing on the plantation 10,000 rubber trees six years old, 22,000 five years old, 12,000 four years old, and 41,000 three years old, besides many thousands of younger trees. The rubber sold during the year amounted to 6711 pounds, obtained from the six year old trees. Those trees are now seven years old, and are expected to yield a larger product this year, besides which 22,000 trees have now become six years old, and are eligible for tapping this year, while an additional number will be ready every succeeding year. As mentioned last month, the company's estimate of this year's product is 25,000 pounds, which is regarded as reasonable by *The Times of Ceylon*, which in an editorial on the company's report predicts that within a very few years the company will be paying 50 per cent. yearly dividends. The paid capital of the company is now nearly £60,000, and the quoted price for shares is 3½ for 1.

#### PLANTED RUBBER IN BORNEO.

THE first tapping of planted rubber trees in British North Borneo occurred on June 24 on the Sekong estate, owned by the North Borneo Trading Co., near Sandakau, in the presence of a party of specially invited guests, headed by the Governor, the trip to the estate having been made on the Governor's yacht. His Excellency tapped the first tree and later removed from a number of other trees the tins of latex, which he emptied into the pails provided for the purpose, after which the Governor's wife, at the collecting depot, strained the latex prior to the beginning of the coagulating process. A bioscope was in operation all the while, from which it is inferred that the various processes are to be exhibited to the public in a series of moving pictures. Before the party separated toasts were drunk to the success of the new enterprise, amid much enthusiasm. The age of the rubber is not stated, but there were 32,000 Pará rubber trees on the estate in 1902, since which time 26,000 have been planted.

#### VISITING AMONG RUBBER PLANTERS.

[FROM "THE TIMES OF CEYLON," SEPTEMBER 7.]

MR. R. W. HARRISON, of Culloden estate, Neboda, who is recognized as the leading rubber planter in Ceylon, has just paid a brief visit to Selangor. He made his headquarters with Mr. J. B. Carruthers, the director of agriculture, but moved about all the time, and found Mr. W. W. Bailey's motor car indispensable. It was placed at Mr. Harrison's disposal, and he was thus enabled to practically see the whole of the estates of Klang. Most of these are under Mr. Bailey's supervision, and his position in rubber planting affairs in the state is unique. Mr. Harrison also saw Mr. M. S. Parry. He has a high opinion of the general country and the estates under cultivation. Much of his time was occupied in visiting and reporting on properties belonging to companies with their offices either in Colombo or London. Mr. Harrison has also brought back some rambong

(*Ficus elastica*) cuttings for St. George group, Kalutara. He enjoyed his visit, found every one hospitable, and returns in good health.

#### VALLAMBROSA RUBBER CO., LIMITED.

REGISTERED April 22, 1904, at Edinburgh, Scotland, with offices at 123, George street, in that city; capital, £60,000 [= \$291,990], in £1 shares full paid. Own the "Vallambrosa" estate, at Klang, Selangor, Federated Malay States; Mr. W. W. Bailey, chairman of the United Planters' Association, is agent; Mr. H. M. Darby, manager. The original purchase embraced 1035 acres and 194½ acres have since been acquired. On the original purchase were 930 acres planted in rubber (1898 to 1902), and 25 acres have been planted this year. The new accessions include 75 acres in coffee, to be planted with rubber 17×17 feet. Sales of shares reported recently at £3.

#### MILMEX LUMBER, RUBBER AND TRANSIT CO.

[Plantation on the river Coatzacoalcas, state of Oaxaca, Mexico. Office: Railway Exchange building, Milwaukee, Wisconsin.]

INCORPORATED May 2, 1905, under Wisconsin laws; capital, \$400,000. Have acquired 5000 acres adjoining the well known hacienda "Del Corte" of the Isthmus Plantation Association of Mexico, another Milwaukee enterprise. The object is to market lumber and plant rubber and other crops. Wilmer Sieg is president, C. W. Lenhart vice president, Paul E. Thomas secretary, W. I. Lane treasurer, and W. H. Perthesius general agent—all business men in Milwaukee.

#### THE CHICAGO RUBBER PLANTING CO.

[Plantation near Palenque, state of Chiapas, Mexico. Offices: No. 609 Ashland block, Chicago, Illinois.]

THE plantation of this company, which is incorporated under the laws of Illinois, comprises 500 acres purchased from the San Marcos Rubber Plantation Co. (Chicago), who have been in operation for some years and whose enterprise is understood to have made satisfactory progress. The officers are John W. Byam, president; T. S. Howell, general manager; Joseph L. Duplissis, treasurer; and N. H. Byam, secretary.

#### FEDERATED MALAY STATES.

THE administration report on Negri Sembilan, one of the Malay states, for 1904 mentions the exports of 42 piculs [= 5600 pounds] of cultivated rubber, against 10½ piculs [= 1400 pounds] in 1903. What was known as the Government rubber estate, one half owned each by the government and Mr. T. H. Hill, was valued at \$59 143 75 (silver) by Mr. E. V. Carey. The government half share was disposed of to Mr. Hill for \$29,571.88, which amount was paid in January, 1905. The tapping of rubber is proceeding on a constantly increasing scale, and a very considerable output for 1905 is expected. The report mentions that the 100 rupee shares of the Seremban Estate Rubber Co., Limited, were quoted at the time of writing at 285 rupees. Several applications for land for rubber planting had been made during the year.

#### SMOKING RUBBER IN CEYLON.

MR. R. C. DICKSON, of the engineering department of the Colombo Commercial Co., Limited, has filed specifications at the Ceylon patent office of an invention to improve the method of coagulating and drying rubber. The new machine, the specifications state, consists of a small furnace, on the top of which is a smoke box containing a large revolving drum. In the space between are a series of baffle plates to divert the fumes and insure that no flames or sparks pass into the smoke box. At one side is a shallow pan for receiving the latex. In this is a small roller partly immersed in the latex with its surface in contact with the surface of the large drum. A fire is placed in the furnace and the fumes are allowed to pass between the baffle plates and round the large drum to the chimney. When the desired

temperature has been reached, the pan is filled with latex from the feeder and the small roller is turned by hand or power. The surface of the small roller, being in contact with the surface of the large drum, turns it and at the same time spreads a thin film of latex on its surface. The action of the heat and fumes on the thin film of latex coagulates and dries it. Continuing the process, the latex is spread film by film, coagulated and dried, until a thick deposit of rubber surrounds the large drum. A damper between the furnace and the smoke box is shut and a door in the smoke box opened. The rubber on the drum is slit across with a knife and unrolled in a long sheet which can be cut to any size for packing. The antiseptic qualities of the fumes, it is claimed, tend to preserve the rubber.—*The Times of Ceylon, August 2.*

#### RUBBER PRODUCTION IN THE ACRE.

THE journal *O País*, of Rio de Janeiro, summarizes the report of the prefect of the department of the Upper Jurua, one of the three divisions of the new Federal territory, covering the first six months of his administration, and submitted to the Brazilian minister of the interior. The population of the department is estimated at 5974. The number of *seringas* (rubber producing camps) is 112. The exports of rubber from this department from October, 1904, to March, 1905, inclusive, amounted to 3,313,372 kilograms, valued at 23,193,604 milreis, the average price of rubber being 7 milreis, while the expense of administration of the department did not exceed 600,000 milreis. The valuation given, with exchange estimated to average 13 pence during the six months, equalled \$6,111,998.53, gold. The report is accompanied by tables and a map, with a valuable résumé of information regarding the department. These figures of yield indicate a very rich rubber field. Over 1200 pounds produced for every inhabitant, and in less than a full working season would be impossible in the older rubber districts of the Amazon. Besides, it must be understood that the whole population is not capable of working rubber. It would appear that an average of a ton for each rubber worker must have resulted—a wonderful result when it is realized that a single rubber tree yields at each tapping only a few spoonfuls of latex, nearly half of which evaporates in the "smoking."

#### RUBBER PLANTING IN SOUTHERN BRAZIL.

THE Rio journal *O Cafesista* for August contained a report on the successful growing of maniocaba rubber (*Manihot Glaziovii*) on the fazenda "Bella Alliança," vargem Alegre, state of Rio de Janeiro, owned by Senhor Mauricio Haritiff, one of the leading agriculturists of the state, who, in view of the lessened profits from coffee culture, planted maniocaba rubber instead, and has already extracted a product which has been most favorably received in Europe. *O Cafesista* mentions that the secretary of agriculture of the state of São Paulo commissioned three leading planters of that state to visit "Bella Alliança," to study the excellent results obtained there from planting rubber. Mention is made of plantation maniocaba rubber sold recently in London at 100 milreis per 15 kilograms, which at the recent high rate of exchange equalled \$1.19½ per pound.

#### PLANTATIONS AND PLANTERS.

MONERAKELLE Rubber Estates, Limited, registered in London, September 8, 1905, with £25,000 capital [= \$121,662.50] to acquire the Monerakelle and three other estates in the Moneragala district of Ceylon and to carry on there and elsewhere the business of rubber and general planters and merchants. One of the directors is A. Bethune, director of the Federated (Selangor) Rubber Co., Limited. Registered office: 12, Fenchurch street, E. C., London. The four estates embrace 1044 acres, of which 22 are now planted in rubber and 353 in cacao.

=Sembilan Estates Co., Limited, registered in London September 8, 1905, with £50,000 capital [= \$243,325] to acquire property and cultivate rubber and other products. No public issue. Directors: H. Gilliat, A. E. Gilliat, and T. E. Hurst-Hodgson, merchants of England. Registered office: 4, Crosby square, E. C., London.

=Mr. J. B. Carruthers, director of agriculture of the Federated Malay States, in order that planters who were unable to visit the Agri-Horticultural show at Penang might see the fine display of rubber made there, arranged with the owners to have an exhibition of the prize winning samples for one day at his office in Kuala Lumpur. Mr. G. D. Russell also gave an exhibition of a new rubber coagulating machine for which he has applied for a patent.

=The *Malay Mail* hears that two Ceylon planters, Messrs. Greig and Volum, will apply for 1000 acres of land for rubber planting in the Kuala Selangor district, Federated Malay States.

=The seventh annual report of Klanang Produce Co., Limited, shows an acreage of 144 acres in Pará rubber and 80 Rambong (*Ficus elastica*) at the beginning of the year; 96¼ acres planted with rubber and coffee during the year, and 360 acres cleared for rubber. Application has been made for about 300 acres additional of government land. The company derive a satisfactory rate of income from cocoanuts and coffee, and large profits are confidently expected from rubber. The whole of the company's share capital of £20,000 has been issued. The £1 shares have been quoted recently in London at £3 5s.

#### AMAZON "PARÁ" RUBBER AND ITS CONTENTS.

[FROM THE "CEYLON OBSERVER," AUGUST 28.]

BEING of the first importance to British rubber planters in the East we quote elsewhere the article written by Mr. Aymé, the American consul, on the custom of blending *Sapium aucuparium* with the true "Pará" or *Hevea Brasiliensis*, and the information about the former tree. The discovery that this has been done for some time is due to investigations by two foreigners, Professor Henri Jumelle and Dr. Jacques Huber.

THE INDIA RUBBER WORLD finds in it a most important argument for rubber cultivation; "for who could imagine, if the Amazonian product had come from cultivated trees, that the planters could for years have been blending the latex of two different sorts" in no fixed proportion, and "neither the manufacturer nor the student of the subject, be a particle the wiser." This is decidedly true in that cultivated Pará is bound to give better results than wild, as it has been known hitherto; but as South American Pará rubber, used hitherto as a standard of unit value, has always been priced about 1 shilling below the best plantation, it shows that the trade, if they were not aware of the contents of the smoke dried article, at least valued it on a lower plane than what they took to be its equivalent produced away from the native habitat of the producing tree.

It is suggested by the above quoted authority that perhaps now it will be found that it is not defective coagulation or inactivity of the producing trees that causes inferiority of tensile strength in the "cultivated" product but just the absence of blending, which has naturally resulted in less purity. Mixing of various latices has, of course, long been done in Africa also by natives—especially in parts where natives are forced to bring in so much rubber and cannot be particular as to which plant or tree it comes from, or whether it is from one or more species. The result is that low prices are obtained, latex of *Landolphia* useless for rubber purposes often being thrown in.

The evidence so far is that the tensile strength of smoked rubber from the *Sapium* is less than that of *Hevea* rubber; but



rubber gatherers profess ignorance on the subject generally, through fear of the contractors they work for. Nevertheless a big field of enquiry as to the blending of latices of various rubber producing trees, of which *Hevea Brasiliensis*, *Castilloa*, and *Ceará* rubber are (in order) so far the chief, is now presented.

It would take the life time of a chemical expert or two to discover which is the best resulting blend. It seems to us that the rubber industry with its various blends—which, be it noted, would be made *before* reaching the market of consumption (the American suggestion to leave manufacturers to do their own blending overlooks the fact that the particular "blending" in question must occur long before the manufacturer is reached, namely at the place of production)—may in time become as complicated as the tea industry is *after* the tea has reached the buyers' hands, at which point blending in the tea trade begins.

From the information presented to-day, there would appear to be even greater need than before for a Ceylon officer like Mr. Frederick Lewis, to be detached for investigation in South America, and to enquire specially in regard to rubber blending in Pará; while the field for study, before our local "rubber" experts-to-be (the chemical analyst, Mr. Bamber, and his assistant, Mr. Bruce) has been appreciably widened—through the work of Mr. Henri Jumelle and Dr. Huber and the attention drawn to it by the American consul in Pará.

#### YIELD OF PLANTED "PARA" RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Referring to the following extract from your October 1 issue (page 30), there seem to the writer to be some discrepancies in it, and he would like to call your attention to the same:

THE London correspondent of *The Times of Ceylon* writes: "Talking to the director of a Straits rubber company this week, he mentioned that on their property 100 coolies a day were hard at work tapping and bringing in 12 ounces a day. The yield per tree (the trees being from six to seven years old) was some 6 ounces from the one tapping, and the manager estimated that the yield per tree for the year would be 1½ pounds of rubber per tree operated upon. The first consignment sold last week at 6s. 7d. [= \$1.50½]."

First, the statement is made that 100 coolies are bringing in 12 ounces a day; should not this read 12 pounds per man? Second, the amount received from a consignment is mentioned in the last line at 6s. 7d. or \$1.50½. Ought this not to be \$1.59½?

NORTON H. BYAM,

Secretary Chicago Rubber Planting Co.

Chicago, Illinois, October 7, 1905.

THE paragraph quoted was given space in accordance with our policy to compile from whatever source data bearing upon the yield of rubber trees of different species and under varying conditions. We do not know what plantation was referred to in the Ceylon newspaper; the point which concerned us was that *Hevea* trees "six to seven years old" yielded in a year 1½ pounds of rubber each, or more than 200 pounds per acre, the general practice being to plant 200 trees to the acre.

Later issues of *The Times of Ceylon* have devoted much attention to the rate of yield of Pará rubber (*Hevea*) under cultivation, and the working force needed. Mr. G. H. Gollledge, writing in the issue of August 17, regards three coolies per acre sufficient for tapping rubber planted 200 trees to the acre, so long as the yield is only one pound per tree; as the trees increase in size and the yield becomes larger an additional number of coolies would be required. He says: "A cooly should tap from 40 to 80 trees per day, according to size of trees - - - Latex from the 80 trees produces one pound of dry rubber." It must be kept in mind that the Pará rubber tree in the Far East, as on the Amazon, is tapped many times during the year,

the yield at each tapping being very small. Where 100 coolies are referred to above as bringing in 12 ounces each per day, the idea is that they will do this the year round. The "one tapping" referred to is one period or season of tapping; to gain 1½ pounds of rubber per tree would involve three such periods of tapping in a year, 6 ounces for each period.

In the issue of August 18, Mr. Francis J. Holloway estimates that one cooly—for tapping alone—should be able to take care of 125 trees per day up to the time that they yield 3 pounds of rubber each per year, and he gives figures to show that 100 coolies—for tapping and curing rubber—should be sufficient for 100 acres of rubber, planted 200 trees to the acre and yielding 600 pounds of rubber per acre, but this involves working every day in the year. His figures analyzed show an average collection of about 2 pounds daily for each hand employed at tapping, but this refers to older and more productive trees than on the Straits plantation mentioned by Mr. Byam.

Mr. W. W. Bailey writing in the issue of August 19 says: "Our men bring in from 1 to 1¼ and 1½ pounds of rubber per day per man, and when our trees get older we shall get 2 pounds per man per day." But supposing one man brings in only one pound per day, and works only 300 days in the year, 666 tappers would be able to take 200,000 pounds of rubber from 1000 acres. The writers quoted above are among the leading Ceylon and Straits planters of rubber.

The above figures of yield seem liberal, in view of the fact that mature native rubber trees in the state of Pará are tapped perhaps 100 times in a year to obtain often less than 5 pounds of rubber, though trees never before tapped may yield 10 pounds. None of these considerations, however, apply necessarily to other species of rubber than *Hevea*, and this, we assume, is not the species our correspondent is planting.

The London price mentioned is a misprint for \$1.60½, the equivalent of the English value, converted at \$4.8665 per £.—THE EDITOR.

#### PLANTING MONEY INSTEAD OF RUBBER.

THE "directors" of The International Rubber and Trading Co. (successor to Mr. John Cudahy's Pará Rubber Plantation Co.) continue to have fun with the misguided investors in their merry game of fraud in the name of rubber. Recently a printed notice was sent out to the stockholders, without date or mention of place of origin, but signed—

H. S. PERKINS,  
Secretary.

HARVEY HARDING,  
President.

—stating that an "annual" meeting had been held at Phoenix, Arizona, at which had been ratified the proceedings of a "special" meeting at Phoenix the day before, and another at Chicago still earlier; that a board of directors had been chosen, with full power to retire stock and issue bonds; that the directors had elected officers and "a general manager who, with our chosen working representatives in the field" was leaving for South America, where "the working season for rubber" is from July to January.

No names except as above—no figures—nothing but the details just quoted, and the assertion:

The foregoing statement seems to the board of directors sufficient evidence without going further into details, as to who controls the property of the International Rubber and Trading Co., and the only reply needed by our intelligent stockholders to any statements that claim otherwise.

How the authors of the circular must have laughed when writing "intelligent stockholders!" But did Mr. John Cudahy—in case he is still a stockholder—laugh when he got one of the circulars?



## RECENT RUBBER PATENTS.

## UNITED STATES OF AMERICA.

ISSUED AUGUST 22, 1905.

- N O. 797,654. Playing ball. R. G. Wingfield, North Wales, Pa.  
 797,707. Obstetrical pad. E. H. Pearson, Washington, D. C.  
 797,757. Anti slipping attachment for vehicle tires. W. J. Smith, Canastota, N. Y.  
 797,796. Hose or pipe coupling. E. Devlin, assignor to J. T. Scott, both of San Francisco.  
 797,830. Hose rack. C. Wright, Everson, Pa., assignor to Wright Manufacturing Co., Wilkesburg station, Pittsburgh.  
 797,865. Tool for wire binding hose to water pipes. A. J. Novachesky, Chicago.  
 797,895. Horseshoe. Rachel Johnson, Madison, Fla.  
 767,908. Eraser. [Comprising a hollow piece of erasing material and a squeeze bulb attached thereto.] C. E. McGill, Owensboro, Ky.  
 797,927. Nozzle. F. L. Titsworth, Kenosha, Wis., and H. B. Sherman, Battlecreek, Mich., assignors to The H. B. Sherman Manufacturing Co.  
 797,989. Razor strop. E. Tolman, assignor of one half to G. H. Brook, both of Taunton, Mass.

ISSUED AUGUST 29, 1905.

- 798,137. Air brake hose. Frank A. Magowan, Trenton, N. J.  
 798,149. Stopper for water bags. C. O. Towne, Torrington, and J. H. Woodward, Waterbury, Conn., assignors to The Waterbury Brass Goods Corporation.  
 798,185. Vehicle tire. [Pneumatic.] H. E. Irwin, Galesburg, Ill.  
 798,195. Pneumatic tire protector. A. J. Locher and J. A. Predom, Auburn, Cal.  
 798,199. Piston rod packing. C. C. Mason, Wilkesbarre, Pa.  
 798,225. Tire for wheeled vehicles. F. A. Sterling, London, England.  
 798,407. Fountain comb. P. L. Frost, Chicago.  
 798,441. Hose coupling. L. R. Nelson, Boulder, Col.  
 798,460. Band for hand stamps. L. K. Scottford, Chicago.  
 798,508. Pneumatic tire cap. H. Harmon, assignor to The Harmon Manufacturing and Distributing Co., both of Chicago.

ISSUED SEPTEMBER 5, 1905.

- 798,608. Milking apparatus [for cows]. J. T. Hoover, Waterloo, Iowa, assignor to The Sanitary Cow Milking Co., Minneapolis, Minn.  
 798,655. Fountain pen. W. Bolles, assignor of one half to J. L. Chase, both of Toledo, Ohio.  
 798,718. Storm shield for vehicles. C. F. Wensinger, Fremont, Ohio.  
 798,728. Vehicle wheel. J. E. Harrod, Indianapolis, Ind.  
 798,767. Rubber shoe. [Claim. 1. A molded rubber shoe having the margin inclosing the mouth of the shoe and the sole portion denser than the uppers, as described. 2. A homogeneous rubber shoe having flexible uppers, the sole portion and the margin inclosing the mouth of the shoe being denser than the uppers, as described.] H. J. Doughty, Providence, R. I., assignor to Atlantic Rubber Shoe Co.  
 798,795. Hose coupling. A. J. Itrich and W. F. J. Lutz, Chicago.  
 798,815. Tire for vehicles. H. P. Maxim, Pittsburgh, Pa.  
 798,827. Combined hose shut-off and door-opener. P. Pierce, Kenosha, Wis.  
 798,893. Breast pump. U. D. Ezell, Kimball, Tex.  
 798,895. Rod packing [for pistons]. O. J. Garlock, Palmyra, N. Y., assignor to The Garlock Packing Co.  
 798,952. Golf tee and blank therefor. O. R. Coast, New York city.

## Trade Marks.

- 5,846. Rubber insulating compound. The Okonite Co., Ltd., New York city. *Essential feature.*—The word OKONITE printed on the representation of a semi circular section of rubber-covered metal conductor.  
 7,372. Packing composed of both asbestos and rubber. Osgood Sayen, Philadelphia. *Essential feature.*—The word TORPEDO.  
 7,932. Fabric hose. American Multiple Fabric Co., Providence, R. I. *Essential feature.*—The words BAKER HOSE, between which is arranged a triangle, within which is the letter B.  
 8,253. Rubber packing. Gibbens & Stream, New Orleans. *Essential feature.*—The letters ALLA. The first L is about twice the size of the others and is placed between an A and an L. The second A is placed beneath the first L.

ISSUED SEPTEMBER 12, 1905.

- 799,037. Recoil pad for guns. A. T. Duncan, Clinton, Mo.  
 799,057. Horseshoe [with rubber cushion]. J. T. Hufty, Delavan, Ill.  
 799,094. Clamping device for pneumatic tires. M. C. Schweinaert, West Hoboken, N. J., and H. P. Kaft, New York city.  
 799,164. Pneumatic tire. T. B. Jeffery, Kenosha, Wisc.  
 799,216. Syringe. [Vaginal.] F. C. Barnes, Fremont, Ohio.  
 799,270. Exerciser. E. Roland, New York city.  
 799,278. Tire for wheels. B. T. L. Thomson, Clapham Common, England.  
 799,293. Detachable securing means for tires. J. Baker, Pasadena, Cal.  
 799,297. Fountain pen. J. F. Betzler, Akron, Ohio.  
 799,301. Train hose coupling. I. I. Caskey, Columbus, Ohio.  
 799,355. Bathing cap. W. F. Pfeiffer, Akron, Ohio.  
 799,374. Rubber fabric [for tires]. C. H. Gray, Silvertown, and T. Sloper, Devizes, England—Sloper assignor to Gray.  
 799,390. Baby cabinet. M. A. Kuykendall, Portland, Ore.  
 799,534. Pressure pad for gilder's tools. W. H. Coe, Providence, R. I.  
 799,547. Horse collar. G. E. DuBois, assignor of one half to F. R. Egee, both of Lenora, Kans.  
 799,551. Antiskidding device for vehicles and cycles. H. S. Eyre, St. Leonards-on-Sea, England.  
 799,575. Pneumatic carpet cleaner. E. E. Overholt, Washington, D. C.  
 799,618. Eraser holder. J. C. St. John, assignor to Nehokist Mfg. Co., both of Boston.

## Trade Marks.

- 7,062. Elastic webbing. The Russell Mfg. Co., Middletown, Conn. *Essential feature.*—The representation of a camel bearing a rider with a spear in his hand and speeding across a desert represented by palm trees and pyramids in the background.  
 8,882. Fountain pens of the self-filling type. The Conklin Pen Co., Toledo, Ohio. *Essential feature.*—The representation of a hand holding a fountain pen in an ink well, with a cuff and a portion of a coat sleeve at the wrist.

ISSUED SEPTEMBER 19, 1905.

- 799,638. Resilient tire for road wheels. A. Ducasle, Neuilly, France.  
 799,659. Ear trumpet. G. G. Lewis, Syracuse, N. Y.  
 799,662. Covering for automobile tires. B. Nathan, New York city.  
 799,681. Manufacture of tiling. [Described in THE INDIA RUBBER WORLD, February 1, 1905—page 160.] J. A. Sloan, Trenton, N. J.  
 799,685. Boot [consisting of a low rubber foot portion; a woven fabric top secured thereto; and having leather extending upwardly from the top of the foot portion]. E. G. Stearns, Chicago.  
 799,777. Self filling fountain pen. R. Conklin, Toledo, Ohio.  
 799,786. Cushion and pump for vehicles. W. S. Freel, Bay City, Mich.  
 799,806. Nursing bottle. [Nipple.] E. H. Simonds, Berkeley, Calif.  
 799,859. Vehicle tire. [Claim. A tire comprising a flexible tube filled with a mass of hollow soft rubber bullets each containing gas in a state of high compression, whereby each bullet is distended to such an extent that it conforms throughout to the adjoining bullets or wall of the tube, the gas in each bullet being capable of expanding the bullet far beyond its normal capacity when the bullet is released from confinement.] Frank A. Magowan, Trenton, N. J.  
 799,895. Massage appliance. [Rubber brush, the massaging surface formed of the ends of suction cups.] J. E. Doughty and J. R. Sanford, Winsted, Conn.  
 799,897. Fountain pen. W. I. Ferris, Stamford, Conn., assignor to L. E. Waterman Co., New York city.  
 799,915. Hose coupling. J. Metzger, North Braddock, Pa.  
 800,039. Fountain pen. F. E. Williams, Janesville, Wis.  
 800,112. Tire for vehicle wheels. J. A. Jones, Harrisburg, Pa.  
 800,129. Self filling fountain pen. R. W. Corham, Seymour, Conn.

## Trade Marks.

- 4,282. Horseshoe pads. Revere Rubber Co., Boston. *Essential feature.*—The word ELITE.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

## GREAT BRITAIN AND IRELAND.

## PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

\* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, SEPTEMBER 6, 1905.]

- 10,913 (1904). Preserve jar ring. A. J. Krummeich, Rotterdam, Holland.
- 10,931 (1904). Reservoir pen. A. F. Cole, Kidderminster.
- 11,134 (1904). Revolving boot heel. F. A. Ellis and D. Honeywood, London.
- 11,156 (1904). Electric cable. [While stranding electric cables, a tape of Chatterton's or other suitable plastic compound is laid on each layer or strand so as to be squeezed into the interstices of the strands by the succeeding layer.] C. J. Beaver and E. A. Claremont, Knutsford, Cheshire.
- 11,940 (1904). Waterproof cases for playing balls. G. W. T. Leeson and W. Hill, Solihull, Warwickshire.
- 11,244 (1904). Golf ball [formed of hollow shell of a composition containing celluloid as the chief constituent and mixed with a heavy material to give weight.] C. de Büren, Geneva, Switzerland.
- \*11,360 (1904). Construction of punching bags, footballs, and the like. A. Lindsay, East Orange, New Jersey.

[ABSTRACTED IN THE OFFICIAL JOURNAL, SEPTEMBER 13, 1905.]

- 11,422 (1904). Exercising apparatus. W. Sutton and S. Lord, Liverpool, and W. S. Kerr, Southport.
- 11,426 (1904). Pneumatic tire [protected from puncture by transverse metal plates]. H. David, Paris, France.
- 11,462 (1904). Rim for pneumatic tires [with one detachable flange or retaining ring]. A. H. Culley and D. E. Brown, Forrest Hill, Kent.
- 11,516 (1904). Pneumatic tire [protected from puncture by a chain of metal plates between cover and inner tube]. F. Nusch, London. (L. Vanderpere-Simon, Ixelles, Belgium.)
- 11,624 (1904). Air cushion. E. Katzenstein, Berlin, Germany.
- 11,771 (1904). Pneumatic tire [protected from slipping by a ribbed cover built up of metallic links]. R. E. P. Craven, Armley, Leeds.
- 11,782 (1904). Life belt. F. C. N. Parizot, Bremen, Germany.
- 11,795 (1904). Leather protector for pneumatic tires. J. Lines, Warrington.
- 11,858 (1904). Hose coupling [for railway air brake]. E. C. Ladner, N. J. Kessels, and C. E. Hayes, Brisbane, Queensland.
- \*11,861 (1904). Pneumatic tire [with protective pad of asbestos]. C. W. Maxon, West Bay City, Michigan.
- 11,918 (1904). Heel protector. C. J. Axten, London, and W. May, East Ham.

[ABSTRACTED IN THE OFFICIAL JOURNAL, SEPTEMBER 20, 1905.]

- 11,924 (1904). Two part rim for elastic tire. C. P. E. Schneider, Le Creusot, France.
- 12,128 (1904). Pneumatic tire [with non skidding band of leather]. E. Stachi, Bristol.
- \*12,169 (1904). Obstetric operating pad. H. J. Haddan, London. (Meinicke & Co., New York.)
- \*12,301 (1904). Waterproof suits for swimming. N. B. Lawson, Muskegon, Michigan.
- 12,401 (1904). Pneumatic tire [having a tread notched transversely to prevent slipping]. T. Jackson and A. Miles, Cheltenham.
- 12,463 (1904). Pneumatic tire [with means for automatically closing punctures]. E. Montecuccoli, Vienna, Austria.

[ABSTRACTED IN THE OFFICIAL JOURNAL, SEPTEMBER 27, 1905.]

- 12,511 (1904). Mold for golf balls. P. H. Haddleton, London.
- 12,523 (1904). Mold for pneumatic tire covers. A. J. Boulton, London. (J. M. Piquera, Paris, France.)
- 12,524 (1904). Pneumatic tire [prevented from creeping by pins inwardly projecting from the rim flanges and entering eyeletted holes in the thickened edges of the tire]. A. S. Morrison, Pinner, Middlesex.
- 12,661 (1904). Grip for handle of a cricket bat or game club. E. L. Curbishley, Manchester.
- 12,705 (1904). Fountain pen filler. J. M. Nolan and A. K. Watts, London.
- \*12,892 (1904). Apparatus for soling leather boots with India-rubber. G. F. Butterfield, Boston, Massachusetts.
- 12,911 (1904). Packing rim for valves. A. E. Davis, Johannesburg, Transvaal.

\*12,912 (1904). Pneumatic motor tire [consisting of a rubber covered annulus made of metallic wire spirals]. T. Midgley, Columbus, Ohio.

12,933 (1904). Elastic tire [having a series of spiral springs fitted in compression between it and the wheel rim]. E. W. Bache, West Bromwich.

12,999 (1904). Pneumatic tire [constructed of a number of independent air chambers. F. G. McKin, London.

13,006 (1904). Pneumatic tire [with protective metallic tread]. A. Pereno, London, and J. Coulon, West Kensington.

## PATENTS APPLIED FOR—1905.

Space is given here only to Applications for Patents on Inventions from the United States.

- 17,691. J. J. Bowes, Jr., Washington City. Hose coupling. Sept. 1.
- 17,842. The British-Thomson Houston Co., Ltd., London. Improvements in and relating to wire coating machines. (The General Electric Co., Schenectady, New York.)

## THE FRENCH REPUBLIC.

## PATENTS ISSUED (WITH DATES OF APPLICATION).

- 352,256 (Feb. 24, 1905). Firm of Geoffroy & Delore. Covering of very fine copper wires for electrical purposes.
- 352,365 (March 14). J. M. Padgett. Device for repairing pneumatic tires.
- 352,371 (March 14). Firm of Robinson Brothers, Ltd., and Mr. Clift. Process of reclaiming rubber. [See THE INDIA RUBBER WORLD, October 1—page 11.]
- 352,407 (March 15). R. Dersonne de Sennevoy. Air chamber with independent sections for tires.
- 352,416 (March 15). Dr. Alexander and Fosnansky. Elastic tire.
- 352,426 (March 16). J. Magnin. Detachable anti-skidding protector for pneumatic tires.
- 352,450 (March 16). R. A. Soret. Hoof pad.
- 352,488 (March 22). A. Berthelier. Pneumatic tire and rim.
- 352,504 (March 18). E. M. M. Houel. Double carriage suspension by metallic springs and pneumatic tubes.
- 352,535 (March 20). B. T. L. Thomson. Wheel tire.
- 352,598 (March 21). W. R. Sine and J. S. Rosenthal. Improvements in the manufacture of Caoutchouc articles. [Process of the Reinforced Hard Rubber Co., Jersey City, United States.]
- 352,619 (March 22). F. Veith. Air chamber for pneumatic tires.
- 352,682 (March 24). F. M. Miller. Hoof pad.
- 352,694 (March 24). J. H. Bontemps. Protected air chamber for pneumatic tires.
- 352,715 (March 20). J. L. Didier. Pneumatic tire.
- 352,827 (March 29). D. Couverchel. Armored pneumatic tire cover.
- 352,839 (March 29). P. de Schostakourky. Process of spinning covers over vulcanized Caoutchouc tubes.
- 353,110 (April 7). L. Noel. Valve for pneumatic tires.
- 353,121 (April 7). F. Beauvois. Method of attaching anti-skidding elastic tires.
- 353,138 (April 7). L. J. Vialle. Elastic tire.
- 353,202 (April 6). L. L. Picat. Non-puncturable tube for pneumatic tires.
- 353,385 (April 15). Dravy and Medhurst. Pneumatic tire.
- 353,413 (April 15). De Dion and Bouton. Elastic tire.
- 353,436 (Feb. 16). B. H. Chameroy. Anti-skidding protector for pneumatic tires.
- 353,438 (Feb. 17). A. L. Adams. Rolling up machine for straight or bias cut bands.
- 353,469 (April 14). A. de Mans. Tire with anti-skidding reinforced cover.
- 353,491 (April 17). The Swinehart Clincher Tire and Rubber Co., Akron, United States. Elastic tire.
- 353,527 (April 17). E. Lapiere. Protector for pneumatic tires.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, post paid.]

**LIBERIA.**—The Liberian Development Co., Chartered and Limited (London), have registered a lien for £4000 [= \$19,466] in 7 per cent. debentures, charged on 15,000 fully paid £1 shares in the subsidiary Monrovia Rubber Co., Limited, through which is held the concession for gathering rubber in Liberia.

## NEW GOODS AND SPECIALTIES IN RUBBER.

## THE COILE BATH TUB.

**T**HIS is a soft rubber, inflatable, collapsible bath tub, without wooden or metallic stays or bars, designed for the purpose of conveniently and safely administering the Brand (bath) treatment to typhoid fever patients and others requiring this treatment, without necessitating their removal from the bed. The bath is recognized by the medical profession generally as the best known treatment in typhoid fever, but its use is limited by a lack of suitable bath apparatus. The best authorities agree that whenever the Brand treatment



has been used it has greatly reduced the mortality rate. The device patented by Dr. Henry P. Coile, Knoxville, Tennessee, and here illustrated, is a full sized bath tub with an air pump attached. The bottom of the tub is a strong oval rubber sheet. The walls attached to the margin of the bottom are a series of superimposed communicating horizontal air chambers, extending entirely around the bottom. Inflated they form a strong air cushioned wall; collapsed they form a border around the bottom which is not of sufficient thickness to be in the way of helping the patient on or off the deflated tub. Air escape valves are placed on both ends of the tub, which serve the purpose of allowing it to rapidly collapse after the bathing has been done. On a level with the bottom is a funnel sleeve through which water may be poured into the tub. It serves also the important function of quickly emptying the tub when desired, by lowering its extremity into a vessel on the floor at the side of the bed. This is essentially a portable bath. The tub, pump, towels, rubbers, and sponges may be packed for easy transportation in a suit case and carried by a boy or conveyed by a physician in his carriage to the patient without inconvenience. It may be used on a suitable hospital carriage or a table, but is especially designed for use on the patient's bed. The United States patent on this device, No. 755,747, was dated March 29, 1904.

## DR. TULLAR'S FRENCH DOUCHE.

**T**HIS new syringe is made entirely of rubber, and has many advantages over other syringes of similar appearance. The patent vaginal spraying dilator is entirely different from all others. It is made of highly polished hard rubber, and has curved dilating flanges or extensions, which keep the parts expanded when in use, causing the 28 spray

jets to come indirect contact with all surfaces. With the "French douche," the outflow of injected fluid is not obstructed, as with the old style syringe; it flows along the spiral grooves, thoroughly dewatering the entire passage. This syringe being made with a special bulb, and also extra large valves and supply pipe, has four times the spraying capacity of bulb syringes of this general appearance; with one insertion of the pipe any quantity of water or medication, may be used. [The Seamless Rubber Co., New Haven, Connecticut.]

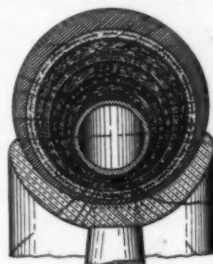
## PEERLESS RUBBER WAINSCOTING.

**T**HE illustration relates to an entirely new material for wainscoting bathrooms and lavatories in parlor and sleeping cars, hospitals, and the like. It is absolutely impervious to liquids, thereby presenting a surface thoroughly sanitary, clean, and hygienic. It will not crack or peel. It is made in sheets of any width to 36 inches, and in any length that may be desired. As made usually the thickness of body is  $\frac{1}{8}$  inch, the molding  $\frac{1}{4}$  inch, and base  $\frac{1}{4}$  inch. The trade is invited to ask for samples and prices. [The Peerless Rubber Manufacturing Co., New York.]



## STEARNS'S PUNCTURE RESISTING TIRE.

**I**n a new form of pneumatic motor tire the inflatable inner tube has wrapped about it two or more puncture resisting pads, the whole being protected by an outer sheath. The form of one of these protective pads is shown in cross section in the lower part of the illustration; the general form of construction in the upper part. Each pad consists of a casing of thin rubber, filled with cotton fiber in the form of felt. Between each two pads, and between the last pad and the outer cover, is a thin layer of rubberized cotton duck, designed as a "binder" to hold the different parts of the tire more closely together. The inflation of the inner tube serves to compact the fiber pads, and thus add to their resistance to puncture. Besides, the alternation of pads and "binders" renders a nail, for example, less liable to penetrate to the air tube than if the protective body were in a single layer, even if equal in thickness to the tire as now constructed. This tire has been patented by William F. Stearns, a rubber factory superintendent at Batavia, New York; United States patent No. 794,197.





## NEW AUTOMOBILE APPAREL.

In the way of novelties in automobile clothing this season, particularly noticeable are rubber surface goods in tan, terra



AUTO SHIRT.



CAP WITH CAPE.

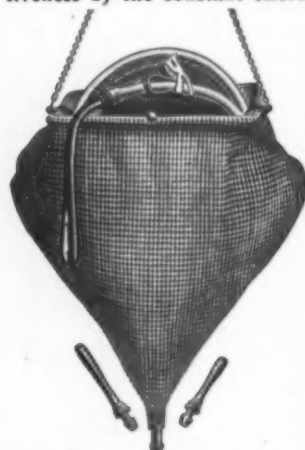


SOU'WESTER.

cotta, pearl, and other colors, which are not only new but attractive. These are to be seen in garments for both men and women, and in addition to "auto shirts," coats and cloaks, they are also made up into hats, caps, etc., to match. One of the illustrations herewith shows an Auto Shirt, which while it is the original garment made for automobile purposes, still remains popular and has a very large sale. It is put on the same as a shirt, has storm fly front, draw

## A NEW STYLE IN FOUNTAIN SYRINGES.

strings at collar and sleeves, and is cut full in length and skirt. This is made in all the colors mentioned above, in addition to black, white, and pearl. For ladies' wear similar goods are made up into cloaks with detachable hood. Two other illustrations relate to sou'wester hats and caps with capes. These, by the way, comprise only a few of the items of interest in the latest catalogue of Hodgman Rubber Co. (Nos. 806 808 Broadway, New York).



the article as inconspicuous as possible. But the main object is to provide a fountain syringe which will remain unnoticed if any stranger accidentally gazed into the owner's grip when she was traveling. [Whitall Tatum Co., New York.]

## "PEERLESS" SPONGE LANDING PAD.

THE interior of the firemen's landing pad illustrated in this cut is porous and spongy. When a fireman "sliding down the pole" lands on this pad the air in the cells is compressed, and it expands again when the pressure is removed. Made from

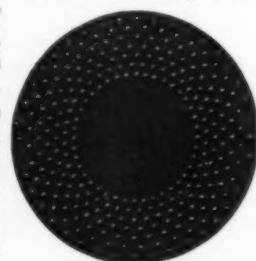
pure Pará rubber such a pad is sufficiently elastic to take up any jar and shock caused by landing on it. It is referred to as



being very durable and lasting, and it may be added that it is listed higher than the air cell or cushion pads. [The Peerless Rubber Manufacturing Co., New York.]

## "HEMISPHERE" CUSPIDOR MATS.

THE illustration relates to a new and attractive design for a rubber mat which serves excellently for use under cuspidors, pitchers, flower pots, and the like, and is made with a raised border to prevent damage to carpets and floors from water running over. This mat is particularly suitable for hotels, public buildings, steamboats, railway stations and cars, conservatories, and porches. A design patent has been applied for. The mats are made in sizes from 12 inches to 18 inches in diameter, and listed at \$7 to \$11 per dozen. [The New Jersey Car Spring and Rubber Co., Jersey City, New Jersey.]



## PROGRESS IN COLOMBIA.

AN early issue of THE INDIA RUBBER WORLD will contain a résumé of the rubber situation in the republic of Colombia which will serve to throw some new light on this little known country. Colombia is twice the size of Texas and has almost unlimited natural resources. It is in this country that the Muzo emerald mines, the finest in the world, are located. Colombia is the first in emerald production and the second in platinum. In total gold produced she is third and when California stamps replace the crude wooden ones now in use she will rival the best. Her coal is only developed for local use, but with railroad facilities Colombia will coal all the steamers going to the Panama canal from her immense beds. Colombian coffee is still brought out by tortuous mule journeys and is among the finest that comes to the market. Her cattle go to Cuba by the hundreds of thousands. Various American and French firms are engaged in shipping mahogany and cedar, the only kinds of her many woods known outside of the country. In the palmy days of wild India-rubber gathering, with its ruthless destruction of trees, Colombia stood at the fore [see THE INDIA RUBBER WORLD, October 1, 1901—page 8], and now again is coming into prominence as shipper of cultivated rubber. The Colombians have learned their lesson and her last revolution was a moral one, with the result of putting into power General Reyes and a government representing both political parties, with "Progress" for their watchword—and they seem to be going about it in the right way.

THE pneumatic motor tire to be manufactured by The Firestone Tire and Rubber Co. (Akron, Ohio), mentioned in the last issue of this paper (page 25) is that covered by the patent of H. A. Palmer, instead of Theron R. Palmer as stated

## RUBBER INTERESTS IN EUROPE.

## A RUBBER FACTORY IN SWITZERLAND.

THE first establishment in Switzerland for the manufacture of technical (mechanical) goods of India-rubber, Gutta-percha, and Asbestos was established in 1895 as a department of the wire and cable works of the firm R. & E. Huber, at Pläffikon, in the canton of Zurich, which date from 1880. The rubber department has grown in importance until it now gives employment to about 100 people, and motive power equal to 500 HP. derived from Betzau, 17 kilometers distant. Pläffikon, by the way, contains about 4000 people and is situated 10 miles from Zurich. The illustration on this page shows the entire works of the Messrs. Huber. Their production of rubber goods consists largely of hose in great variety as regards size, color, and purposes for which it is employed. There are also made belting, packings, mats and matting, rubber rollers for numerous purposes, and insulating material in hard and soft rubber, including pure gum strip. The company have made treads for automobile tires and purpose taking on the production of complete tires. Some druggists' goods have been made. The asbestos used is chiefly in connection with rubber for special packings.

## GUTTA GENTSCH IN GREAT BRITAIN.

At the third annual meeting of shareholders of The New Gutta-Percha Co. (London, September 29) the gross profit of the year's trading was reported to be £266 9s. 8d. It was explained that time is required for tests satisfactory to possible buyers of a new insulating material. Their customers, however, already included the admiralty, several railway companies, and other concerns of importance, and letters were read from engineers of these companies expressing the most favorable opinions of "Gentsch." In certain quarters their goods had been objected to on the ground of not being "all British," whereupon manufacturing arrangements had been completed with Johnson & Phillips, Limited, of Old Charlton, Kent, and the opposition of "the India-rubber and Gutta-percha ring" would be circumvented by selling arrangements made with Verity's, Limited, who had branches throughout the kingdom and wide export connections. In connection with the arrangement with Johnson & Phillips, a new company will be formed to be called the Parnax Cable Manufacturing Co., Limited. Parnax is the name adopted for the quality of their material to be specially used for the insulation of land cables, as opposed to Gutta-Gentsch, which will be retained for submarine insulation. Negotiations were under way for the sale of the French patents to a syndicate on what was believed to be favorable terms. [Gutta Gentsch is described in THE INDIA RUBBER WORLD September 1, 1902 (page 385); October 1, 1902 (page 9); January 1, 1905 (page 131).]

## RUBBER GOODS HIGHER IN AUSTRIA-HUNGARY.

MANUFACTURERS of rubber goods on both sides of the Leitha river have advanced the prices of their products, by reason of the enormously high prices of the crude material. The advance amounts to 15 per cent. for goods the price of

which is less than 10 kronen, and to 20 per cent. for goods sold at more than 10 kronen. It has been in force since September 15. [10 kronen=\$2.03.]

## GERMANY.

VEREINIGTE Gummiwaaren-Fabriken Harburg-Wien, who had already a factory at Hannover, have purchased the export business there of Gerlach & Cie. (Bödeckerstrasse 22), which will be continued for the sale of druggists' and surgical rubber goods.

=The German manufacture of dress shields (*Schweissblätter*), instead of being in the hands of a few large firms as in America, is distributed among a number of relatively small concerns. A recent list credits Berlin with 7 producers of such goods; Bielefeld 2; Dresden, Frankfurt a/M., Leipzig, and Mannheim 1 each—a total of 13. Two of these firms make other goods, including the important Deutsche Kabelwerke Actiengesellschaft, with M 2,000,000 capital.

=The Dunlop Pneumatic Tyre Co., G. m. b. H. (a branch of the British Dunlop company), who began manufacturing independently at Hanau, in October, 1904, are reported about to build a second factory, to provide for the growth of their business.

## GREAT BRITAIN.

MR. ISIDOR FRANKENBURG, founder and head of the important firm of I. Frankenburg & Sons, Limited, electric cable and rubber manufacturers, of Greengate, Salford (adjoining Manchester), has accepted the office of mayor for the ensuing year. Mr. Frankenburg, whose firm was formed originally in 1866, has long taken an active interest in municipal affairs, becoming a member of the Salford council in 1887, alderman in 1901, and more recently justice of the peace.

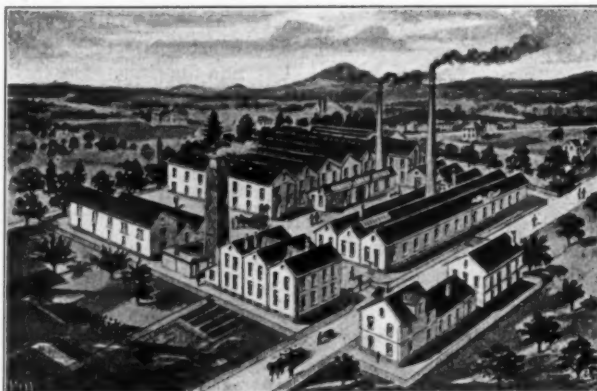
=A. W. Leslie & Co., Limited, waste rubber merchants in London, announce that owing to the great increase in their business they have removed their warehouses and offices from Essex road to 119, Stoke Newington road, N., where they should be addressed in future.

=The Warwick Tyre Co., Limited (Birmingham), announce that The Dunlop Pneumatic Tyre Co., Limited, have been appointed, as from October 1, 1905, the exclusive selling agents for their tires—"Warwick" and "Cambridge". Purchases of the tires thus designated will, therefore, be billed to customers by the Dunlop company hereafter, and not by the Warwick company.

## FIRE IN A GERMAN FACTORY.

THE yearly report of the Actiengesellschaft Vereinigte Gummiwaaren-Fabriken Harburg-Wien, prepared for presentation at the shareholders' meeting on October 28, comes to hand too late for review in these pages. Space must be found, however, for the reference which the report contains to the recent fire in the works at Harburg a/d Elbe, which involved the destruction of the original building, erected in 1856. The report says:

"Since the completion of our annual report, a severe fire devastated our Harburg works during the night of October 6-7, totally destroying the buildings used for the manufacture of shoes and tires. While operations in our remaining lines of manufacture, including the plant of the Galalith Gesellschaft,



RUBBER WORKS OF R. &amp; E. HUBER.

have not suffered the slightest interruption, we regret to state that it has been necessary to completely suspend the making of shoes and tires.

"The direct damage suffered by the fire, which will amount to approximately 2,000,000 marks [= \$476,000], is covered by insurance. The current book year, however, will be unfavorably affected by the interruption of operations. Our stock of shoes has been partially saved, and we will be in a position to satisfy the present demand for rubber shoes in the German market.

"We have already taken the necessary steps for installing a provisional plant, and hope to be enabled thereby, with the assistance of our Wimpassing works, to meet the requirements of our customers as well as circumstances will admit. The tire manufacturing season has ended, and we hope to have this line in full operation by the time the next season opens. We have, however, likewise planned a small provisional plant for these goods, and will therefore be in a position to fill all incoming orders, for which purpose we shall likewise utilize our Linden works.

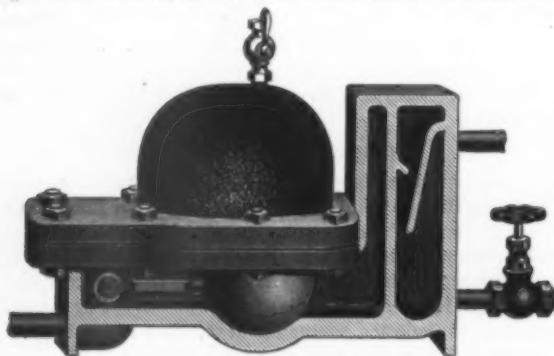
"Our endeavor will be to build our new plants as rapidly as possible, and we shall, of course, equip them with the latest and most efficient designs of machinery, so as to find ourselves once more capable of manufacturing in the most perfect manner our well tried and satisfaction giving products, and to considerable increase our capacity."

#### ITALY.

ACCORDING to the *Frankfurter Zeitung*, of Germany, there has been formed at Milan, Italy, a joint stock company under the style of *Società Italiana per l'industria della Gomma*, with a capital of 1,250,000 lire [= \$241,250], for the manufacture and sale of India-rubber and Gutta-percha goods, and especially pneumatic tires for vehicles. From other sources it is learned that the object of the company referred to is the exploitation of an entirely new tire. The manufacturing will be done at the important rubber works of Pirelli & Co.

#### THE "NEW ERA" STEAM TRAP.

NO one but the rubber manufacturer knows how much need there is of a good trap, many types developing the bad faculty of cutting valves, or blocking them up from sediment. The "New Era" defeats this by providing a sediment chamber in which everything that could by possibility injure a valve or a pipe settles. This chamber is fitted with a



CROSS SECTION OF STEAM TRAP.

blow-off, so that once in every few months it can be effectually cleaned by the simple opening of a valve. The trap is so simple that it really needs no explanation whatever, the cross

section cut showing enough of the details to make it perfectly plain. In brief, it consists of a heavy iron casting with two distinct chambers, one for the sediment and one for the float. In the latter, the float operates a discharge valve of the Corliss type. The only joint is made with a wide surface so that once packed it remains tight almost indefinitely. At the top of the float chamber is an air cock, through which imprisoned air is allowed to escape. The trap is self supporting upon feet independent of the piping. The operation of the trap is as follows:

Steam mixed with water of condensation and sediment enters through the inlet pipe and strikes against a baffle plate. The sediment then falls to the bottom of its chamber, the condensation passing upward into the top of the sediment chamber, whence it passes into the float chamber. As the water rises in this chamber it raises the float, opens the discharge valve and runs out. The falling of the water then closes the valve. [Manufactured by Charles F. Hopewell, Cambridge, Massachusetts.]

#### AUTOMATIC WRAPPING MACHINES.

THE accompanying illustration represents an automatic wrapping machine especially adapted for the wrapping of hose, tubing, or tires, although it may be used to wrap any sheet material. This machine is constructed in any desired length between frames, the size in general request being 42 inches in the clear. The frame is made of cast iron, being supported at either end by substantial A shaped legs connected by rods. The rolls are of seamless steel tubing and made in



AUTOMATIC WRAPPING MACHINE.

lengths consistent with the size of the machine, which runs but one speed. The approximate weight of the device is 600 pounds, though this varies in accordance with the length of rolls carried. One of the merits claimed for this machine is that its process of operation allows the operator the unrestricted use of both hands. It is claimed to be thoroughly practical in design and operation, and it has been extensively sold. The manufacturer is A. Adamson, Akron, Ohio.

NICARAGUA.—The details were given in the last number of this paper of a contract under which the republic of Nicaragua conceded to certain persons a monopoly of gathering rubber on the public domain in the department of Zelaya, and the districts of Prinzapolka and Rio Grande, from September 1, 1905. *The American* (Bluefields) contains a notice signed by Otto L. Lehman, as lessee of the rubber trees, warning the public to respect the terms of the contract, from which it would appear that the contract has been transferred by the original parties.



## NEWS OF THE AMERICAN RUBBER TRADE.

## MAKING RUBBER FOOTWEAR AT LA CROSSE.

THE La Crosse Rubber Mills Co. (La Crosse, Wisconsin) have made their first rubber footwear, the primary line being tennis shoes, the first quality being marked "La Crosse Rubber Mills Co.", the second quality "Fleet Foot". From this they go on to a general line of rubber footwear, for which their manufacturing equipment and new buildings are now complete. The company will start, of course, with a small ticket but will have a producing capacity of 7000 pairs a day.

## THE AKRON RUBBER SHOE FACTORY.

THE rubber shoe factory of The B. F. Goodrich Co. (Akron, Ohio) is rapidly getting into shape. The main building for the work is a four story brick building of the very latest and best mill construction, the dimensions being 144 X 96 feet. The goods manufactured will be known as the "Straight Line" goods, and although the ticket at the present time is but a few hundred pairs a day, new help is being rapidly broken in and it is being materially increased.

## JOSEPH STOKES RUBBER CO.

AN amendment to the articles of incorporation of the Joseph Stokes Rubber Co. (Trenton, N. J.), filed on October 6, with the secretary of state of New Jersey, authorizes the increase of their capital stock from \$50,000 to \$150,000. The total capitalization is to comprise 1000 shares of preferred (6 per cent cumulative) and 500 shares of common stock, of the par value of \$100. The decision to increase the capital was reached at a meeting of the directors in April last.

## GLENDALE ELASTIC FABRICS CO.

AT a meeting of stockholders of the Glendale Elastic Fabrics Co. (Easthampton, Massachusetts), held in Boston on October 9, it was voted to increase the capital stock from \$250,000 to \$327,600. Mr. George Astill has been elected general manager of the company, and director in place of the late Mr. Joseph W. Green, and Mr. C. A. Richmond has been elected assistant treasurer.

## BOSTON BELTING CO. IN PHILADELPHIA.

HAVING made a change in their representation in Philadelphia, the Boston Belting Co. announce the appointment of Mulconroy Company, Inc., No. 722 Arch street, Philadelphia, as their agent for that city and vicinity. The new agency will constantly carry in stock a full line of the Boston company's staple goods, which in all cases are marked with their name and brand, which are guarantees of excellence, as also is the long established position of the company as large manufacturers of mechanical rubber goods.

## A WHOLESALE RUBBER HOUSE IN TEXAS.

THE firm of Appel & Burwell Rubber and Tire Co. has been formed at Dallas, Texas, to engage in a wholesale business in vehicle, automobile, and bicycle tires. It is composed of Fred Appel, who has been in the retail trade in Dallas for several years, and N. B. Burwell, who has been a traveling salesman for rubber tires in the southwest for eight years—latterly for the International A. & V. Tire Co. The new firm will do business at the old stand of Mr. Appel, No. 110 South Akard street, whose retail sale and repairing of bicycles will be continued as a side line. The firm write to THE INDIA RUBBER WORLD: "We intend to be primarily a rubber tire distributing house, but we will also carry a line of rubber hose, packing, and rubber

mechanical goods after the first of the year. Our territory will include Texas, Arkansas, Louisiana, Oklahoma, and Indian Territory. We have the only exclusively rubber wholesale house in Texas or the southwest. We will have one man on the road a greater part of the time."

## UNITED STATES RUBBER CO.—DIVIDENDS.

THE board of directors on October 5 declared a dividend of 2 per cent. upon the First preferred stock (including all the preferred stock now outstanding) for the quarter beginning July 1, 1905, and a dividend of 1½ per cent. upon the Second preferred stock for the same quarter, from the net earnings of the company. The net earnings for the first six months of the year (September partially estimated) are \$2,005,887.32. The net earnings for the corresponding period last year were \$2,105,485.89.—Application has been made to the New York Stock Exchange for the listing of the Second preferred stock, issued recently in connection with the merger with the Rubber Goods Manufacturing Co.

## SUIT AGAINST A TIRE COMPANY FAILS.

IN the United States circuit court at St. Louis on October 6 judgment for the defendant was rendered in the suit of Augusta L. D. Perry against Rubber Tire Wheel Co. and its successor The Consolidated Rubber Tire Co. (New York), to recover \$60,000 in commissions which John W. Perry claimed to have earned by conducting negotiations in Europe for the sale of rights under the Grant patent, covering what is known as the "Kelly-Springfield" solid rubber carriage tire. Mr. Perry was at one time manager of the Paris branch of the defendant companies and conducted negotiations with a German company which he asserts were not carried to a successful conclusion through the fault of his employers. He assigned his claim to his wife, and this was the basis of the suit.

## LANCASTER (OHIO) RUBBER CO.

LANCASTER Rubber Co., mentioned in this paper last month as a new Ohio corporation, is located at Lancaster, in that state. It is The Phoenix Rubber Co., lately of Barborton, Ohio, under a new name. Charles J. Franklin, the principal shareholder, is president, and M. A. Franklin secretary. It was intended to begin the manufacture of specialties in the druggists' and similar lines before the end of the month just closed.

## RUBBER TIRES AT A CARRIAGE SHOW.

IN connection with the thirty-third annual convention of the Carriage Builders' National Association, which was held October 3-5 in the Second regiment armory in Philadelphia, being largely attended, occurred the customary exhibition of carriage accessories which has become so important a feature of these yearly gatherings of the trade. There were more than 100 exhibits. The following tire manufacturing companies were represented, most of them by several officers, managers, or salesmen:

Consolidated Rubber Tire Co.	.....	New York city.
Firestone and Rubber Co.	.....	Akron, Ohio.
The B. F. Goodrich Co.	.....	Akron, Ohio.
Goodyear Tire and Rubber Co.	.....	Akron, Ohio.
The Hartford Rubber Works Co.	.....	Hartford, Connecticut.
Kokomo Rubber Co.	.....	Kokomo, Indiana.
Milwaukee Rubber Works Co.	.....	Cudahy, Wisconsin.
The Mechanical Rubber Co.	.....	Cleveland, Ohio.
National India Rubber Co.	.....	Bristol, Rhode Island.
Pennsylvania Rubber Co.	.....	Jeannette, Pennsylvania.
The Republic Rubber Co.	.....	Youngstown, Ohio.
Stein Double Cushion Tire Co.	.....	Akron, Ohio.

Sweet Tire and Rubber Co. .... Batavia, New York.  
The Victor Rubber Co. .... Springfield, Ohio.

Morgan & Wright (Chicago) were represented, but had no display of their tires. Exhibits were made also by L. C. Chase & Co. (Boston); Fairfield Rubber Co. (Fairfield, Connecticut); Fabrikoid Co. (Newburgh, New York); and the Rubber-set Brush Co. (Newark, N. J.)—of carriage cloth and other carriage accessories.

#### NEW YORK STOCK EXCHANGE TRANSACTIONS.

##### UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Sept. 23	25,070	58 $\frac{1}{2}$	55 $\frac{3}{4}$	2,800	114 $\frac{3}{8}$	112
Week ending Sept. 30	14,100	56 $\frac{1}{2}$	53 $\frac{1}{2}$	2,300	112	110 $\frac{1}{2}$
Week ending Oct. 7	29,550	57	52 $\frac{1}{2}$	1,330	112	111 $\frac{1}{2}$
Week ending Oct. 14	14,500	53 $\frac{1}{4}$	50 $\frac{1}{2}$	1,440	111 $\frac{3}{4}$	110 $\frac{1}{2}$
Week ending Oct. 21	8,950	54 $\frac{1}{4}$	51 $\frac{1}{2}$	500	111 $\frac{3}{4}$	111 $\frac{1}{2}$

##### RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Sept. 23	3,400	35 $\frac{1}{4}$	34 $\frac{1}{2}$	200	104	104
Week ending Sept. 30	3,400	39	35	100	104 $\frac{1}{2}$	104 $\frac{1}{2}$
Week ending Oct. 7	900	38 $\frac{3}{4}$	37	600	105	104
Week ending Oct. 14	700	36 $\frac{1}{2}$	36	200	105	105
Week ending Oct. 21	500	37 $\frac{1}{2}$	37	100	105 $\frac{1}{4}$	105 $\frac{1}{4}$

#### FORMER RUBBER FACTORIES CHANGE OWNERS.

THE building erected in 1899 by the Model Rubber Co. (Woonsocket, Rhode Island) for a rubber shoe factory, and not in use for such purpose for the past three years, has become the property of Brindle Brothers, a company organized in July,

1903, to manufacture narrow woven fabrics. Brindle Brothers have been tenants of part of the building from the beginning, and now intend enlarging their facilities and occupying the whole building.

=The Standard Rubber Works property at Campello, Massachusetts, has again changed hands. Following the assignment of the Standard Rubber Corporation, about the end of 1900, this property was bought by Patrick Cavanaugh, of New York, who with his associates organized the Standard Rubber and Oilcloth Co. This business was discontinued on the death of Mr. Cavanaugh, and in October, 1904, the property was purchased by Rufus P. Maltby, also of New York, as an investment. It has now been sold to B. F. Tozier, a manufacturer of Lynn, Mass., but the purpose to which it is to be devoted is not stated.

#### NEW INCORPORATIONS.

EMERGENCY Rubber Co., October 4, 1905, under the laws of New York; capital, \$50,000. THE INDIA RUBBER WORLD is advised: "The president of the company is George R. Fuller, who is vice president and general manager of the Telephone Securities Co.; S. Schwarzschild is vice president and manager; Albert Vogt, treasurer of the Vogt Manufacturing Co., treasurer; and E. E. Pfahl, secretary. The office of the company will be located at 522 Granite building, Rochester, New York. The object of the company is to manufacture rubber shoes and other goods in the rubber line."

=Fidelity Rubber Co., October 10, 1905, under Rhode Island laws; capital \$5000. Incorporators: LeBaron C. Colt, W. De Forest Brown, and Lefferts S. Hoffmann, all of Bristol, Rhode Island. Object, to protect a trade mark on certain goods manufactured by the National India Rubber Co., of which Mr. Colt is agent and Mr. Brown secretary.



NEW FACTORIES OF THE CANADIAN RUBBER CO. OF MONTREAL, LIMITED.

MENTION has been made in these columns several times during the year of the extensive improvements in progress in the plant of The Canadian Rubber Co. of Montreal, Limited, involving important additions. On this page is shown a view of an entirely new series of buildings on the north side of Notre Dame street, Montreal, the floor area of which comprises 5 $\frac{1}{4}$  acres, all of which is accessory to the older factory plant, comprising 12 acres of floor space. The large increase in the company's business has necessitated the separation of many of the departments which previously were covered under one roof. The new buildings are devoted especially to the manufacture of carriage cloth, proofing, textile and rubbered fabrics, rubber cement,

druggists' sundries, sporting and stationers' supplies, and other specialties. The large general factories are devoted to the company's other products—"Canadian" rubbers (15,000 pairs daily), mechanical goods, and so on. Besides making these additions to their facilities, the company have installed many improved appliances for manufacture, and improved their head offices. Handsome displays of the company's goods have been arranged in the general office building, and interlocking rubber tiling has been laid down on the floors. Including the general warehouse, the company's plant now embraces a total area of 21 acres. Their products are further referred to in a catalogue notice on another page.

## NEW CAPITAL OF THE UNITED STATES RUBBER CO.

THE application of the United States Rubber Co. to have listed on the New York Stock Exchange their new capital share issues was approved by the governing committee of the Exchange on October 25, and due notice given. It will be remembered that in connection with acquiring control of the Rubber Goods Manufacturing Co. a few months since it was agreed to increase the capitalization of the United States Rubber Co. by \$25,000,000, of which \$15,000,000 was to be in First preferred stock and \$10,000,000 Second preferred stock, the amount of common stock to remain as before at \$25,000,000. It appears that there have now been issued 286,403 shares of First preferred stock, of which 235,255 are to be exchanged for the old preferred stock, share for share, and 51,148 for an equal number of shares of preferred stock of the Rubber Goods company. There have been issued 83,873 shares of Second preferred stock, of which 68,581½ are to be exchanged for double the number (137,163) of shares of common stock of the Rubber Goods company. Prior to May last the outstanding common stock of the United States company amounted to 236,660 shares, which number was increased on May 23 by 13,340 shares of common stock issued for cash at par to the Meyer Rubber Co., a constituent company, which brings the issue of common shares up to the total number authorized to be issued. The outstanding issues of the United States company to-day compared with the amounts authorized by its charter (together with its amendments) are as follows:

	Issued.	Authorized.
First preferred.....	\$28,640,300	\$40,000,000
Second preferred .....	8,387,300	10,000,000
Common.....	25,000,000	25,000,000
Total.....	\$62,027,600	\$75,000,000

The official statement would appear to leave unaccounted for \$1,539,150 of the Second preferred shares issued thus far.

It might be added that the total share capital of the Rubber Goods Manufacturing Co. outstanding at the date of the merger, and the amount of which control has been acquired by the United States Rubber Co., compare as follows:

	Total.	Acquired.
Preferred .....	\$ 8,051,400	\$ 5,114,800
Common.....	16,941,700	13,716,300
Total .....	\$24,993,100	\$18,831,100

The United States company also embraces in its statement the following:

## CONSOLIDATED INCOME STATEMENT FOR FIVE MONTHS ENDING AUGUST 31, 1905.

Net sales, boots, shoes and miscellaneous.....	\$15,954,566.21
Cost of goods sold .....	13,330,797.01
Manufacturing profit .....	\$ 2,623,769.20
General and selling expenses, including interest, freight, taxes and insurance .....	1,234,826.31
Operating profits.....	\$ 1,388,942.89
Other income.....	162,402.97
Net profit.....	\$ 1,551,345.86

[NOTE.—It appears fair to assume that statement embraces no results of operations of the Rubber Goods Manufacturing Co., the merger of which with the United States company had scarcely been accomplished at the date of the report.—THE EDITOR.]

## GENERAL RUBBER CO.

ACCORDING to the statement made by the United States Rubber Co. in its application to the Stock Exchange, the General Rubber Co. was organized March 29, 1904, under the New Jersey laws, for the purpose of buying, selling, and dealing in crude rubber, with an authorized capital of \$2,000,000, of which \$1,000,000 was paid in cash. The authorized capital was increased April 29, 1905, to \$5,000,000, of which \$2,000,000 additional was

paid in July, making a total cash capital at present of \$3,000,000, of which \$2,000,000 is owned by the Meyer Rubber Co., and \$1,000,000 by the Rubber Goods Manufacturing Co., each of these companies being a subsidiary corporation of the United States Rubber Co. The General Rubber Co. on July 1, 1905, executed an indenture with the Industrial Trust Co. (Providence, Rhode Island), as trustee, covering an issue of \$9,000,000 ten year gold debentures, bearing interest at 4½ per cent., of which \$6,000,000 have since been disposed of, under guarantee as to principal and interest by the United States Rubber and Rubber Goods Manufacturing companies. The paid in capital of the General Rubber Co. and the proceeds of these debentures is employed for buying and carrying crude rubber, practically entirely for the United States and Rubber Goods companies.

## AFFAIRS OF THE HARDMAN RUBBER CO.

AN action at law instituted by Cyril Johnson against the Hardman Rubber Co. (Belleville, New Jersey), in which company he is a minor shareholder, was widely reported as a suit for the appointment of a receiver for the company on the hypothesis that entries had been wrongfully made in the company's books with the object of avoiding the payment of dividends. The Hardman Rubber Co. advise THE INDIA RUBBER WORLD that no application was ever made to any court for the appointment of a receiver for their company, and the question of the appointment of a receiver has never been opened or discussed before any court or judge. The action brought by Mr. Johnson had for its only object the correction of some credits made on the books of the Hardman Rubber Co. to the Belleville Land and Improvement Co., to which Mr. Johnson objected, claiming that the credits have been wrongfully made with a view to avoiding the payment of dividends to his injury as a minor shareholder. The vice chancellor has designated January 25 the day on which the case is to be heard, and has ordered Mr. Johnson, the complainant, to present proof at that time of his allegation that these items of credit were put wrongfully to the account of the land and improvement company. Bradstreet's reports that the company's statement of the case is believed correct, and authorities regard it as simply a disputed matter, which does not affect the company's credit. The company further report that their business is very brisk, and that they have at this time more orders for immediate delivery than at any previous time in their history.

## MR. HEYL-DIA'S SYNTHETIC RUBBER.

AN invitation to witness the manufacture of Synthetic rubber is one that most of the trade, whether skeptical or believing, would be inclined to accept, and it was therefore not at all singular that the Editor of this Journal gladly availed himself of the opportunity to see Mr. George E. Heyl-Dia turn a "bastard" gum into a true Caoutchouc-like product. The experiment took place in the laboratory at the Safety Insulated Wire and Cable Co.'s works at Bayonne, New Jersey. The primary product appeared to be a very cheap gutta mixed with chemicals, probably in powder form. They were not to be identified by taste or smell, and there certainly was no true rubber present in the mass. This prepared slab was put into a jacketed vulcanizer, in a pan, the bottom of which was made of wire rods laid parallel to one another and close together. Steam was then turned on, the pressure gage showing an average of 55 pounds. After three hours the heater was opened and the slab had changed into a spongy dark colored product of three times the original volume, and was as elastic in that state as fine Pará. When stretched out into thin films it had a curious greenish cast, and smelled not unlike burned sugar. That the experi-



ment was successful no one could deny. The product that went into the heater cost, it was stated, 53 cents a pound. What came out, guessing at shrinkage, looked as if it might be worth at least \$1 a pound. Of course there was no opportunity for the writer to test the gum as to its ability to take up compound to vulcanize, or to wear, as against real rubber.

#### THE DERBY RUBBER CO.'S RECLAIMING PLANT.

THE rubber reclaiming plant at Shelton, Connecticut, which is now one of the oldest in existence, is to be operated in future under new conditions. The Derby Rubber Co., incorporated February 27, 1889, with an authorized capital of \$20,000, has retained its corporate existence though the factory has undergone several changes of management, and the capital has been increased to \$50,000. As will be seen from the announcement which follows, the management of the factory is in the hands of Mr. William F. Askam, one of the original incorporators. The present officers of the company are: Allan W. Paige, president; W. F. Askam, vice president; Charles N. Downs, secretary and treasurer. The announcement follows:

We beg to announce that the factory plants of The Derby Rubber Co., located at Shelton, Connecticut, have been thoroughly remodeled and equipped with new and modern machinery, and will be operated by the owners as a rubber reclaiming factory.

Mr. W. F. Askam, vice president and general manager of the company, who has for many years been engaged in the rubber reclaiming business, will have charge of the manufacturing department of the company, which is a guarantee that these mills will continue to make the well known grades of reclaimed rubber for which they have in the past been so well and favorably known. Yours truly,

THE DERBY RUBBER CO.

Derby, Connecticut, October 16, 1905.

#### TRADE NEWS NOTES.

FRANK C. HOWLETT (Syracuse, New York) writes to THE INDIA RUBBER WORLD that he is at a loss to know how the report got started that he is to open a rubber factory in the far West. He has been receiving letters from Seattle, Washington, in reference to the matter, and letters have been sent in his care for F. E. Elwood, whom he does not know, though it has been given out in Seattle that Elwood is in Mr. Howlett's employ. Mr. Howlett states that he has no intention whatever of starting a factory as reported.

=Boston Belting Co., through their southwestern selling agents, Messrs. Towner & Co., at Memphis, Tennessee, lately filled for that city an important order for cotton double jacket fire hose, which was put to a severe test, in public, with results in every way satisfactory.

=The Republic Rubber Co. (Youngstown, Ohio) were mentioned in our July issue as adding to their plant an extensive brick building. By putting a roof over a large open space between two of their main buildings they are now still further increasing their room. The additions, when finished, will give them more than 50 per cent. additional floor space.

=In view of the large amount of printed matter required in the factory of the National India Rubber Co. (Bristol, Rhode Island), in the shape of tickets, slips, labels, and the like, not to mention the stationery required in the office, the company have installed in their plant an outfit for doing their own printing.

=Frank A. Magowan, formerly prominent in the rubber industry in Trenton, New Jersey, of which city he was also mayor at one time, appears to have turned his attention of late to invention, patents having been issued to him for an automobile tire constructed so as not to be injured in case of puncture, and also for a new article in air brake hose.

=The Robins Conveying Belt Co. (New York) have secured the contract for belt conveyors for the United States naval coaling station at Olongapo, Philippine islands. They are mentioned also as having secured a large order for belt conveyors for the Santander (Spain) iron mines.

=The Mitzel Rubber Co. (Carrollton, Ohio), have opened an office and placed a stock of their druggists' and other sundries at No. 205 Medinah temple, Chicago, under the management of Charles H. Ten Eyck.

=The Boston Woven Hose and Rubber Co. are said to be the largest manufacturers of tire tape in the United States.

=The Standard Rubber Co. (Trenton, New Jersey), mentioned in the last number of this paper as having been incorporated, has been organized by the election of James D. Brady, president; A. C. Reves, vice president; and John M. Wright, secretary and treasurer. These also comprise the board of directors.

=Yatman Rubber Manufacturing Co., manufacturers of molded goods at Newark, New Jersey, have removed from No. 224 High street to No. 267 Mt. Pleasant avenue.

=S. Birkenstein & Sons (Chicago), dealers in all kinds of rubber scrap, in connection with new and old metals, have, for the purpose of largely increasing their facilities, removed to new quarters—Nos. 64-74 Ontario street.

=The Canadian Rubber Co. of Montreal, Limited, were awarded a gold medal at the Provincial Exhibition at Halifax, Nova Scotia, last month, for their exhibition of general rubber goods, comprising belting, hose, packing, and the like, and also rubber footwear.

=C. J. Bailey (No. 22 Boylston street, Boston) has gone West on a tour in connection with his specialties, and also for his "Won't Slip" tire, which is already a wonderful success.

=Joseph G. Moomy, a veteran in bicycles and bicycle tires, is running an automobile tire repair shop in Erie, Pennsylvania, and doing some very interesting work in the repairing of damaged tires.

=The Continental Rubber Works (Erie, Pennsylvania) are doing a fine business in the manufacture of inner tubes for automobiles.

=Mr. D. C. Spraker of the Kokomo Rubber Co. (Kokomo, Indiana), has returned from a trip to the Pacific coast, during which he visited the Lewis and Clark Exposition at Portland, Oregon.

=Mr. Harry G. Woodard, well known and very popular wherever tires are marketed, has become the manager of the New York branch of the Diamond Rubber Co. (Akron, Ohio.)

=William Seward, Jr., has resigned his position as vice president of the Hartford Rubber Works Co., his connection terminating on September 30. Mr. Seward took an active interest in the factory baseball team, and on the date mentioned was given a silver loving cup by the members of the team.

=F. G. Saylor, of Franklin, Massachusetts, for some years connected with the rubber trade, is developing a new tire known as the "M. & S." It is not of the pneumatic type, but will be used chiefly for heavy vehicles.

=Mr. C. E. W. Woodward, formerly connected with The Fisk Rubber Co. (Chicopee Falls, Massachusetts), is acting as tire expert and counsel for the Knox Automobile Co., and the Olds Motor Works.

=The original and interesting little monthly *The Pneus*, edited by Mr. Burton R. Parker at Chicopee Falls, Massachusetts, and devoted, as may be judged from the title, to automobile tires, is one of the most entertaining publications in the trade.

= This is not in the line of an advertisement, but Mr. T. W. Miller of the Faultless Rubber Co. (Akron, Ohio), has for a year past been whirling around Akron, up and down its steep hills and over the questionable roads of its outskirts in a Franklin runabout which has had no disease at all during that time, not even "tire sickness."

= The factory of the U. S. Rubber Reclaiming Works at Buffalo, New York, continues to be enlarged and improved, indicating a constant growth in the business of the company. Reference to the company's advertisement on another page of THE INDIA RUBBER WORLD will show to the reader the latest and most comprehensive view of the buildings now occupied.

= The Swinehart Clincher Tire and Rubber Co. (Akron, Ohio) have established a New York office at No. 1773 Broadway, in charge of Mr. Herbert C. Comstock as manager.

= Creditors of the North American Rubber Co. (New York), in bankruptcy, have received notice from William H. Willis, referee, of a dividend declared on their claims, duly proved and allowed, of 7 per cent., payable on and after October 31.

= B. Loewenthal & Co. (Chicago and New York), dealers in old rubber, announce the withdrawal of Edward D. Loewenthal from their firm, as from September 21.

= Referring to rumors that the plant of the Falcon Rubber Co. (New Haven, Connecticut), was about to pass into new hands, an official, in connection with the regular monthly meeting of directors in October, was quoted as saying that no bid had been received for the property. The Falcon company was organized early in 1904 to make druggists' sundries, but has not been at work during the last six months.

= The Standard Self-Filling Fountain Pen Co. (Toledo, Ohio) have been encouraged by their success in marketing their patent fountain pen to put in plant for working their own hard rubber parts. They have installed three lathes and also buffing wheels and other machinery for turning, cutting, and polishing pen barrels, caps, and feeds, together with a die press for doing imprint work.

= The Foster rubber sole, manufactured by the Foster Rubber Co. (Boston), is being adopted by many large leather shoe manufacturers for next season's goods.

= Mr. B. T. Morrison, treasurer of the Reading Rubber Mills (Reading, Massachusetts), is on his way back from quite an extended vacation, most of it spent on the Pacific coast.

= The L. C. Chase Co. (Boston), whose robes are known the world over, are out with still another type of trouser robe for automobilists, which looks as if it were a winner.

= The repair factory attached to the Lovell Manufacturing Co. (Erie, Pennsylvania), is now turning out 4500 wringer rolls per day.

= Frank Reifsneider (Akron, Ohio) is selling to the rubber trade a white earth that he mines somewhere in the west, which he characterizes as Aluminum Flake.

= The Goodyear Tire and Rubber Co. (Akron, Ohio) sold last year 30,000 of their Saunders Pneumatic golf ball. This year the trade absorbed 30,000 dozen; a very healthy increase.

= Mr. Albert T. Holt, formerly of the Victor Rubber Co. (Springfield), has accepted a position with the Miller Rubber Manufacturing Co. (Akron, Ohio).

= It is reported that the Oregon Railroad and Navigation Co. have decided to equip all their passenger coaches with rubber matting instead of twine and carpet matting in the aisles, on account of the sanitary advantage from the change.

= Worcester Rubber Tire Duck Co. (Worcester, Massachusetts) September 22, 1905, under the laws of Maine; capital \$25,000. Incorporators: A. F. Moulton, E. G. Wilson, and John Howard Hill, all of Portland, Maine.

= The Forest City Rubber Co. (Cleveland, Ohio), October 17, 1905, under Ohio laws; capital, \$25,000. Incorporators: Fred. W. Hempy, Frank H. Hempy, John C. Poore, George C. King, William E. Crofut.

= Oriental Rubber Co., October 18, 1905, under the laws of New Jersey, with \$125,000 capital authorized. Incorporators: Otto H. C. Arendt, Otto Arendt, Jr., and Michael Sugrue, Jr., all of Newark, New Jersey. Mr. Arendt was one of the founders of the Paramount Rubber Co. (Newark) and was an officer in that company until the factory was disposed of to A. W. Faber.

= Referring to the elastic compound marketed by William H. Scheel (No. 139 Maiden lane, New York) mentioned in THE INDIA RUBBER WORLD, April 1, 1904 (page 239), it is announced that the same is now being offered at a material reduction from the prices hitherto ruling. This is a hydrocarbon mineral rubber, which has proved of no little interest to the trade.

= The Suffolk Rubber Co. (Setauket, Long Island), mentioned in THE INDIA RUBBER WORLD of April last as having been organized to make rubber shoes, and later as having begun work, are reported to have closed their factory.

#### PERSONAL MENTION.

MR. WILLIAM MILLS IVINS, president of the General Rubber Co., has consented to become the candidate of the Republican party for the office of mayor of New York city, at the elections on November 7. A sketch of Mr. Ivins appeared in THE INDIA RUBBER WORLD for August (page 364).

= Ex-Governor A. O. Bourn, of the Bourn Rubber Co. Providence (Rhode Island), has returned from his vacation spent in Jaffrey, New Hampshire, where he did not fish or shoot, but, as he expressed it, "simply held communion with nature."

= In St. Bartholomew's church, New York, on September 30, Miss Beatrice Wright was married to Mr. John Macy Gallaway. The bride was the daughter of the late John Bascom Wright, of San Francisco, and latterly has lived in New York with her uncle by marriage, George Crocker. Mr. Gallaway, who is connected with the United States Rubber Co., is the son of Robert M. Gallaway, president of the Merchants' National Bank (New York), and who was a director in the United States company for some time at the beginning.

= Mr. H. M. Sadler, Jr., who for some years was assistant treasurer of the United States Rubber Co. and for a while assistant general manager also, has become a member of the general stock and bond firm of Markle & Sadler, No. 52 Broadway, New York.

= Two representatives of the important German rubber works Hannoversche Gummi-Kamm-Co. Aktiengesellschaft—Herr Gustav Bartl, one of the directors, and Dr. Paul Stockhardt, superintendent of the factory—while recently in the States favored THE INDIA RUBBER WORLD offices with a visit.

= Mr. Frederick H. Jones, who was recently elected general manager of the Tyer Rubber Co. (Andover, Massachusetts), has leased the Booth estate in that town and will occupy it as a residence.

= Mr. E. W. Maynard, president of the Maynard Rubber Corporation (Springfield, Massachusetts), issued invitations recently to a whale dinner, having received the present of some whale meat from Newfoundland, where such meat is reported to be canned extensively for export to England.

= The fact that Mr. Homer E. Sawyer, general manager of the United States Rubber Co., temporarily wears crutches does not indicate gout, but a sprained knee which he acquired by stepping hastily into a ten-foot pit while going over a rubber factory.

## THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Alden Rubber Co. and the Pure Gum Specialty Co., of Barberton, have entered into a working agreement, but one which cannot be denominated a consolidation, according to the officers of the companies. The larger stockholders of both companies are the same, and they have come to the conclusion that it would be more economical to manage both companies under one roof. The full force of both companies will be retained, but they will have their headquarters in the offices of the Alden company, with W. A. Johnson, treasurer of both companies, as general manager of the two plants. Charles C. Schutz, who has been superintendent of the Pure Gum Specialty Co., will be superintendent of both, and Oliver Joy, who has been secretary of the Alden Rubber Co., will have charge of the sales and the offices of both companies.

The Diamond Rubber Co., in accordance with their usual custom, sent a corps of expert tire makers and repairers to Long Island to look after the company's interests at the Vanderbilt cup races on October 14. There were 30 in the party, including the company's experts who went to Europe for the last Gordon Bennett cup race, in charge of Cliff Myers. The fact that all of the American machines in the race were equipped with "Diamond" tires naturally is a matter of self-congratulation on the part of the company.

At the annual meeting of The Diamond Rubber Co. on October 10 the board of directors was reelected without change, and subsequently the officers of the company were also reelected. It is reported unofficially that the capital stock of the company is to be increased to \$3,000,000, and the facilities increased correspondingly, though the company are not yet prepared to make any announcement of the details for publication.

The current report in the middle West that the duck hunting trip to which Messrs. Haskell and Work recently treated themselves was for the purpose of exploiting a new rubber cored bullet, seems to be an error. They used the old fashioned solid bullet, and in the contest were about equal in approaching. Mr. Haskell seemed to have the advantage in driving, but his lead was overcome by Mr. Work, who did some very fine putting. The score was suppressed.

The Motz Clincher Tire and Rubber Co., among the youngest rubber concerns in the city, have leased part of a factory plant, which they will occupy as business headquarters and for the shipment of their tires. Their rubber work will continue for the present to be done at the Buckeye Rubber Co.'s factory. The Motz company intend soon to exploit actively their European patents.

James Christy's Aladdin Rubber Co., at Barberton, is rapidly taking shape, the main factory building being nearly completed. It is expected that in the course of sixty days they will be turning out their special tire of reclaimed rubber, which is to be made by a new process, neither acid nor alkali.

It was an unusual occurrence when, on October 4, Governor Herrick addressed 3000 or more employes of The B. F. Goodrich Co., The Diamond Rubber Co., and the Alkali Rubber Co. in an open area near the three factories. The speech was made at the noon hour, when the men stopped work and absorbed mental and political pabulum instead of the usual midday meal. Governor Herrick spoke in the interest of his reelection and advocated the enactment of a law to protect bank depositors—a subject of interest in Akron on account of the recent losses to numerous rubber workers and others through a bank failure.

All the rubber factories in the city were closed on October 5, on account of the Summit county fair. This is something that has never occurred before, and the attendance at the fair was swelled several thousands in consequence.

The M. & M. Manufacturing Co., hitherto a partnership between Frank C. Millhoff and E. C. Gammeter, has been incorporated under the laws of Ohio, with \$12,000 capital, and will continue to manufacture rubber cement.

Mr. James A. Braden, advertising manager of The Diamond Rubber Co., and well known also as an author and former newspaper man, took a vacation during the first part of October, spending "Home week" in his native town, Warren, Ohio.

The people of Akron, having decided to have a first class Country Club, have been presented with the Casino building, a fine edifice for indoor sports, owned by Messrs. B. G. Work, C. C. Goodrich, A. H. Marks, and others of the young men connected with the rubber trade of the city.

Mr. Frank Seiberling, of the Goodyear Tire and Rubber Co., was lately on the Pacific coast.

## THE TEXTILE GOODS MARKET.

THE cotton duck market at this writing rules exceedingly strong, with no indication of a decline. The supply according to best reports is not more than adequate to the demand. It is assumed by those who should know that existing conditions supply and demand almost irrespective of the price of raw cotton will sustain the price of cotton goods. The government report of the amount of cotton ginned to October 18 showed 4,940,728 bales as against 6,417,894 bales for the corresponding period last year. Regarding this report a competent authority writes:

"The practically unanimous opinion, however, is that the report was susceptible of but one construction, and that a bullish one indicating a crop of 10,000,000 bales or less, or practically the same as that of two years ago, though some of the more radical bulls insist that it points to a yield of not much if anything over 9,500,000 bales. Others who consider themselves conservative bulls put the crop at 10,500,000 to 10,750,000 bales but add that it will be inadequate to the demand for consumption which they estimate at from 12,000,000 to 12,500,000 bales."

The call from the rubber shoe trade is equally as active as that of the mechanical goods industry and it is estimated that when the contract price is fixed, which will probably be within the current month, that it may be higher than that of last season. So far as the speculative tendency is concerned, it is stronger than it has been in two years. Rubber manufacturers while necessarily purchasing in the open market to satisfy existing needs show no disposition to anticipate, pending the fixing of the contract basis. Sheetings adapted for rubber trade consumption are in very active request, though the paucity of supply renders deliveries within the current year virtually impossible. Staple cotton is fully 25 per cent. stronger that it was last year, when it was necessary as it generally is to mix the raw material with the seasoned cotton.

This year's crop being of superior quality, mixing was unnecessary and the standard fixed by the government much easier to meet. Competent authority asserts that cotton will not recede from its present figure this fall and claims that 12 cent cotton will be one of the market features of the early future. The undeniable strength and advancing prospects of the cotton market have not up to this time affected the conservative policy of rubber trade buyers.



Mill agents state that general buyers outside the rubber trade are inclined somewhat to speculation, showing a more pronounced disposition in this respect than in previous years. A strong factor in the present strength of cotton lies in the scarcity of labor, which is asserted to be 20 per cent. less than its requirement. It is claimed that 1 per cent. of the total cotton crop is consumed in the rubber trade.

### NEW TRADE PUBLICATIONS.

**THE B. F. GOODRICH CO.** (Akron, Ohio) issue an interesting booklet under the title "From Tree to Tire", the purpose of which is to illustrate the various stages of rubber from its source in the South American forests, first to the company's factory, and then through various mechanical processes to the form of completed, inspected, and tested automobile tires. The illustrations are numerous, informing, and well executed half tones. [5½" × 7¼". 22 pages.]

**THE CONTINENTAL CAOUTCHOUC CO.** (New York) issue a catalogue of "Continental Tires," made at Hannover, Germany, with detailed accounts of their merits, together with prices and testimonials from users; also a compilation of records made in automobile contests. A list of tire accessories is included. [5½" × 8¼". 24 pages.]—"Opinions of Users of Continental Tires" is a brochure made up of reproductions in facsimile of letters from well known automobilists. [5½" × 8". 16 pages.]

**HODGMAN RUBBER CO.** (Nos. 806 808 Broadway, New York) issue an interesting priced catalogue of Automobile and Motor Boat Clothing and Sundries, in which are illustrated a number of attractive styles for men's and women's cloaks, jackets, and caps. [3¼" × 6¼". 31 pages.]

**THE OHIO RUBBER CO.** (Cleveland and Cincinnati, Ohio) issue for the season 1905-06 a catalogue of Storm Proof Clothing—attractive both as a catalogue and on account of the styles illustrated—including mackintoshes, cravenette goods, rubber surface specialties, and oil clothing. [4" × 9¼". 16 pages.] = Accompanied by an 8 page price list.

The various trade catalogues, price lists, and descriptive circulars issued by **THE CANADIAN RUBBER CO. OF MONTREAL, LIMITED**, would, if combined in one general catalogue, form a volume of several hundred pages. The company have preferred, however, to devote separate publications to different lines of goods—as Belting, Hose, and Packing; or to classes—as Fire Department Supplies, Druggists' Sundries, Rubber Footwear, and so on. They are thus able to place in the hands of each actual or possible customer printed matter bearing directly upon his interest. Several of their recent issues have been noticed in these pages, but an inspection of a complete set of these catalogues which has been received gives a better impression of the extent and variety of the company's production in rubber goods, than a review of them separately as published. Some of the special lists relate to hoof pads, "Everstick" rubber shoes, printers' blankets, waterproof textile goods, and so on. This collection embodies 21 separate publications, all in English except a catalogue of *Claques et Bottes en Caoutchouc* (rubber boots and shoes) in French.

**R. & E. HUBER** (Pfäffikon, near Zurich), the first manufacturers in Switzerland of technical India rubber and Gutta-percha goods—having added some ten years ago a branch for this purpose to their wire and cable factory, founded in 1880—have issued a handsomely got up *Preis-Courant* of mechanical rubber goods, such as hose, packings, belting, mats, *et cetera*, together with some items of asbestos and also hard rubber. The matting designs shown are very attractive. [5½" × 9". 54 pages.]

**THE PEERLESS RUBBER MANUFACTURING CO.** (New York), in a booklet entitled "A Few Remarks," puts in a novel and readable style some of the good points of "Rainbow" packing. [3½" × 6½". 16 pages.]

**ANCHOR TILE CO.** (Trenton, New Jersey) issue a book descriptive of their Anchor Rubber Tiling, with a number of views illustrating the variety of attractive color schemes which are possible by the use of this tiling. The Anchor tiling was described in **THE INDIA RUBBER WORLD** February 1, 1905—page 160. [7¼" × 8¼". 16 leaves.]

### ALSO RECEIVED.

**WM. F. MAYO & CO.**, Boston.—Fall Catalogue No. 6—September, 1905. 100,000 cases Rubber Boots and Shoes [at bargain sales]. 32 pages.

**The Rubber Chemical Co., Limited**, Birmingham, England.—Concerning Nantusi. [A preservative preparation for rubber goods.] 8 pages.

**The Seamless Rubber Co.**, New Haven, Connecticut.—Dr. Tullar's Hygienic Douche Appliances for Women. 16 pages.

### A MATTER WORTH LOOKING INTO.

[FROM LA VETA (COLORADO) "ADVERTISER."]

**WE** have at last obtained a sample of the genuine rubber weed direct from Buena Vista, sent by Mr. Peter Smith. This sample shows both root and bloom surrounded with cotton. It greatly resembles a weed which grows in abundance along our country roads, but whether it is the same or flourishes in these parts, we are not at present prepared to say. Those interested are invited to examine this specimen and compare it with anything else they can find. The matter is worth looking into.

### CANDY BARRED FROM A RUBBER MILL.

**ONE** of the Providence newspapers reports the issuing of an order, at the Woonsocket factory of the Woonsocket Rubber Co., forbidding the employés during working hours to suck "lollypops." Not only the 600 girls employed in the mill, but a number of the men were indulging in these sweets to an extent, so it is said, that led the superintendent—though fond of lollypops himself—to fear that their work would be interfered with. Hence the order, which is said to have been obeyed, but not without filling the place with gloom.—The "Century Dictionary" defines "lollypop" as "A coarse sweetmeat, made of sugar and treacle, usually with the addition of butter and flour; taffy. [English.]"

### INDIA-RUBBER GOODS IN COMMERCE.

#### EXPORTS FROM THE UNITED STATES.

**OFFICIAL** statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of August, 1905, and for the first eight months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
August, 1905.....	\$118,886	\$182,102	\$ 244,769	\$ 545,757
January-July.....	637,102	588,309	1,671,076	2,896,487
Total.....	\$755,988	\$770,411	\$1,915,845	\$3,442,244
Total, 1904.....	570,972	651,392	1,600,574	2,822,938
Total, 1903.....	568,707	507,897	1,655,396	2,732,000
Total, 1902.....	459,871	524,629	1,298,132	2,282,652
Total, 1901.....	308,017	304,407	1,201,086	1,806,410

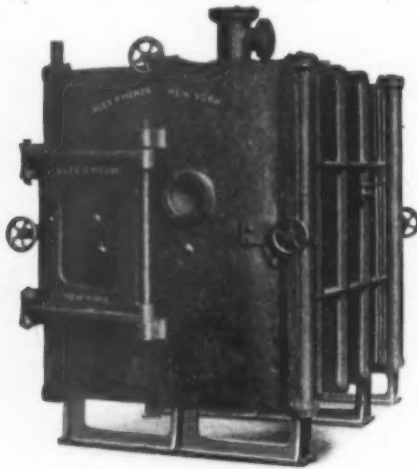
## VACUUM DRYING OF RUBBER.

THE vast economic value of this process, the great rapidity with which the drying of materials *in vacuo* is accomplished, the low temperatures at which it can be carried on, the great saving in fuel, space, and labor, the improvement vacuum drying exercises upon the materials, the large daily production of a comparatively small apparatus when compared with the space occupied by drying rooms, etc., all of which have become so well established and known at this date through the many vacuum drying plants operated in the United States and in Europe, that no more need be added in its praise.

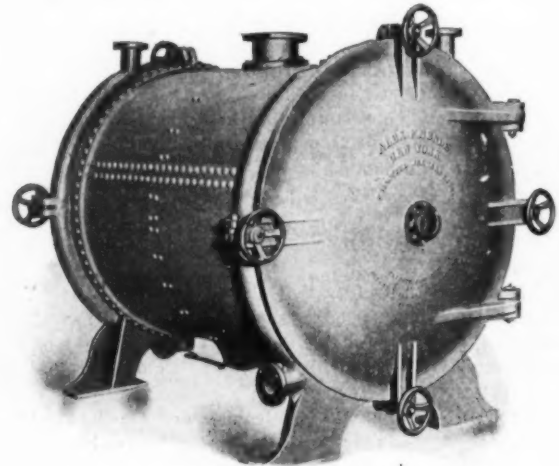
To Mr. A. P. Mende is due to have been the first in the United States to construct vacuum drying chambers and to bring them to successful operation in his own chemical and

color works, thence advocating the adoption of this economic process among the various American industries. Dr. Mende's experience in this line runs over a period of 15 years and hundreds of materials of all kind came to his hands for drying in vacuo; the results of which are to-day embodied in the vacuum apparatus that are now built and sold by Messrs. Norman Hubbard's Sons Machine Works, Nos. 265-267 Water street, Brooklyn, N. Y., and where a series of testing plants are operated for the convenience of prospective patrons.

Messrs. Norman Hubbard's Sons Machine Works offer the apparatus in rectangular and in cylindrical styles, in all practical dimensions, made of cast iron, wrought iron or steel, with plate shelves or shelf coils inside, or in shape of vacuum tunnels for use of racks and cars of any description, all in first class workmanship and at reasonable prices.



RECTANGULAR VACUUM CHAMBER.



CYLINDRICAL VACUUM CHAMBER.

## REVIEW OF THE CRUDE RUBBER MARKET.

EARLY in the month just closed a decline in prices began, which continued for a fortnight, since which time the lower level then reached has remained practically without change, though at the end of the month the market presents a condition of more firmness. The decline first applied to Pará sorts, following reports of larger arrivals at the primary markets, and in view of some of the larger consumers being apparently well provided with supplies. Later the decline extended to Africans and other medium sorts. Pending the important Antwerp sale of October 23, when over 500 tons were to be offered, and a feeling prevailed that a lower standard of prices would result, the market, particularly for Africans, became very quiet. The result of the sale, however, was that higher prices were realized for the better qualities than had prevailed previously, and in consequence there has been a general stiffening in prices of all sorts.

Receipts at Pará (including Caucho) since the beginning of the crop season have been as follows:

	1903.	1903.	1904.	1905.
July..... tons	1200	1280	1250	1450
August.....	1370	1230	1260	1300
September.....	1670	2010	1780	2200
October.....	2280	2440	2820	22900
Total.....	6600	6960	7110	7850

[a—To October 28.]

Following is a statement of prices of Pará grades, one year ago, one month ago, and on October 31—the current date:

PARA.	November 1, '04.	October 1, '05.	October 31.
Islands, fine, new.....	112@113	127@128	118@119
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	115@116	129@130	121@122
Upriver, fine, old.....	none here	132@133	132@133
Islands, coarse, new.....	64@ 65	71@ 71	68@ 69
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	88@ 89	92@ 93	89@ 90
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet.....	67@ 68	73@ 74	70@ 71
Caucho (Peruvian) ball.....	77@ 78	85@ 86	85@ 86

The decline in Africans has been less marked; some grades are without change, as follows:

AFRICAN.		CENTRALS.	
Sierra Leone, 1st quality	100@101	Esmeralda, sausage....	82 @83
Massal, red.....	100@101	Guayaquil, strip.....	70 @71
Benguella.....	79@ 80	Nicaragua, scrap....	81 @82
Cameroon ball.....	69@ 70	Panama, slab.....	62 @63
Accra flake.....	26@ 27	Mexican, scrap.....	81 @82
Lopori ball, prime.....	109@110	Mexican, slab.....	60 @62
Lopori strip, prime.....	92@ 93	Mangabeira, sheet....	70 @71
Madagascar, pinky....	90@ 91	EAST INDIAN.	
Ikelemba.....	109@110	Assam.....	95 @96
		Borneo.....	44 @45

## Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine. ....	5450	Upriver, fine.....	60300

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QUOTA  
Address S.

Islands, coarse ..... 2\$450 Upriver, coarse..... 4\$200  
Exchange, 16 $\frac{1}{2}$ d.

Last Manáos advices:

Upriver, fine..... 6\$300 Upriver, coarse. .... 3\$800  
Exchange, 16 $\frac{3}{4}$ d.

### Statistics of Para Rubber (Excluding Caucho).

NEW YORK.					
	Fine and Medium.	Coarse.	Total 1905.	Total 1904.	Total 1903.
Stocks, August 31.....tons	231	85	316	93	168
Arrivals, September.....	240	273	513	691	954
Aggregating.....	471	358	829	784	1122
Deliveries, September.....	220	292	512	740	1025
Stocks, September 30..	251	66	317	44	97

PARÁ.					
	1905.	1904.	1903.	1905.	1904.
Stocks, August 31.....tons	275	360	120	380	200
Arrivals, September....	2055	1741	1980	652	593
Aggregating.....	2330	2101	2100	1032	793
Deliveries, September. 1853	1728	1860	725	575	1000
Stocks, Sept. 30..	477	373	240	307	218

ENGLAND.					
	1905.	1904.	1903.	1905.	1904.
World's visible supply, September 30.. tons	1967	1463	1719	4535	3951
Para receipts, July 1 to September 30.....	4535	3951	4506	385	349
Para receipts of Caucho, some dates.....	385	349	415	307	303
Afloat from Para to United States, Sept. 30 ..	307	303	492	499	525
Afloat from Para to Europe, September 30....	499	525	650		

### Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since our report of September 20 a small sale of about 38 tons took place on October 6, at firm prices. Red Loanda firsts were paid fc. 12.40; black ditto fc. 12.42 $\frac{1}{2}$ ; red Loanda seconds fc. 8.15; red Angola thimbles firsts fc. 11.37 $\frac{1}{2}$ ; black ditto fc. 11.52 $\frac{1}{2}$ ; Ikelemba partly sticky from 11.17 $\frac{1}{2}$  to fc. 11.65.

The next large sale will be held on October 25, when 511 tons will be exposed. The usual Congo sorts, as Uelé, Aruwimi, Djuma, Congo Sangha, Maringa, Upper Congo balls and Kasais are represented by larger lots. Arrivals per steamer *Anversville* from the Congo on October 10, 541 tons.

Antwerp, October 17, 1905. C. SCHMID & CO., SUCCESSEURS.

CABLE reports indicate that the Antwerp sale realized prices generally higher than the brokers' valuations, by 2 to 3 per cent. The General Rubber Co. (New York) are reported to have been the heaviest buyers.

### RUBBER ARRIVALS AT ANTWERP.

SEPTEMBER 21.—By the *Philippeville*, from the Congo:

Bunge & Co. .... (Société Générale Africaine) kilos.	74,000
Do ..... (Chemins de fer Grand Lacs)	7,000
Do ..... (Société A B I R)	18,000
Do ..... (Cie. du Kasai)	112,000
Comptoir Commercial Congolais .....	2,500
Société Equatoriale Congolaise... (Société l'Ikelemba)	2,500

### Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots, in cents per pound—show a general increase over last month's figures, as follows:

Old Rubber Boots and Shoes—Domestic.....	8 $\frac{1}{2}$ @ 8 $\frac{1}{2}$
Do ..... —Foreign.....	7 $\frac{1}{2}$ @ 8 $\frac{1}{2}$
Pneumatic Bicycle Tires.....	5 $\frac{1}{2}$ @ 5 $\frac{1}{2}$
Solid Rubber Wagon and Carriage Tires.....	8 $\frac{1}{2}$ @ 8 $\frac{1}{2}$
White Trimmed Rubber.....	9 $\frac{1}{2}$ @ 9 $\frac{1}{2}$
Heavy Black Rubber.....	5 $\frac{1}{2}$ @ 6
Air Brake Hose.....	3 $\frac{1}{2}$ @ 3 $\frac{1}{2}$
Fire and Large Hose.....	3 @ 3 $\frac{1}{2}$
Garden Hose.....	2 $\frac{1}{2}$ @ 2 $\frac{1}{2}$
Mattings.....	1 $\frac{1}{2}$ @ 1 $\frac{1}{2}$

### WANTED.

QUOTATIONS are wanted for grinding Hard Rubber Scrap and Shavings. Address S. E., care of THE INDIA RUBBER WORLD.

[852]

M. S. Cols ..... (Allma)	4,000
Do ..... (Société Baniembé)	1,500
Cie. Commerciale des Colonies..... (Cie. Française du Congo)	7,500
Do ..... (Cie. de l'N'Kéme et l'N'Kéni)	4,000
Comptoir des Produits Coloniaux (Ekela Kadel Sangha)	8,000
Do ..... (Société "N'Goko" Sangha)	2,500
Société Coloniale Anversoise (Belge du Haut Congo)	9,500
Do ..... (Cie. de Lomami)	31,000
Do ..... (Sud Kamerun)	2,500
Do ..... (Société La "M'Poko")	1,600
Charles Dethier.....	3,000

OCTOBER 10.—By the *Anversville*, from the Congo:

Bunge & Co. .... (Société A B I R) kilos	29,000
Do ..... (Société Général Africaine)	155,000
Do ..... (Chemins de fer Grand Lacs)	24,000
Do ..... (Société "La Kotto")	30,000
Do ..... (Sultanats du Haut Ubangi)	8,500
Société Coloniale Anversoise (Belge du Haut Congo)	33,000
Do ..... (Sud Kamerun)	10,000
Do ..... (Cie. de Lomami)	4,000
Do ..... (Cie. du Kasai)	13,000
Do ..... (Cie. du Kasai)	89,000
Do ..... (Belgika)	5,500
Comptoir Commercial Congolais .....	37,000
Cie. Commerciale des Colonies (Cie. de l'N'Kéme et l'N'Kéni)	3,000
Do ..... (La Haut Sangha)	25,000
Comptoir des Produits Coloniaux (Ekela Kadel Sangha)	38,000
Do ..... (Société N'Goko Sangha)	2,000
G. & C. Kreglinger..... (Société La Lobay)	9,000
Charles Dethier..... (Société La M'Poko)	21,000
Do ..... (Belgika)	1,000
Société Générale de Commerce..... (Allmaienne)	4,000
M. S. Cols .....	500

### ANTWERP RUBBER STATISTICS FOR AUGUST.

DETAILS.	1905.	1904.	1903.	1902.	1901.
Stocks, July 31 kilos	819,559	872,746	377,527	689,772	1,040,441
Arrivals in August..	500,389	244,704	347,062	321,192	286,816
Congo sorts .....	375,263	221,665	323,136	294,073	267,839
Other sorts .....	134,126	23,039	24,926	27,119	18,977
Aggregating....	1,328,948	1,117,455	724,589	1,010,964	1,327,257
Sales in August....	770,746	514,950	404,603	254,563	642,902
Stocks, August 31	558,202	602,495	319,986	756,401	684,355
Arrivals since Jan. 1	3,719,673	3,709,621	3,326,304	3,558,836	3,838,870
Congo sorts .....	2,611,203	3,069,256	2,971,328	3,295,549	3,511,466
Other sorts .....	808,380	640,365	355,066	263,287	327,374
Sales since Jan. 1..	3,702,832	3,718,026	3,664,513	3,217,144	3,758,464

### ANTWERP RUBBER STATISTICS FOR SEPTEMBER.

DETAILS.	1905.	1904.	1903.	1902.	1901.
Stocks, Aug. 31 kilos	558,202	602,495	319,986	756,401	684,355
Arrivals in Sept....	339,575	772,200	455,762	470,084	887,256
Congo sorts.....	240,891	632,293	442,435	429,855	871,360
Other sorts.....	98,684	139,907	113,327	40,229	15,896
Aggregating...	897,777	1,374,695	775,748	1,226,485	1,571,611
Sales in September.	331,042	570,213	353,890	769,774	675,468
Stocks, Sept. 30..	566,735	804,482	421,858	456,711	896,143
Arrivals since Jan. 1.	4,059,248	4,481,821	3,782,156	4,028,920	4,726,126
Congo sorts .....	3,152,184	3,701,549	3,413,763	3,725,404	4,382,856
Other sorts .....	907,064	780,272	368,393	303,516	343,270
Sales since Jan. 1..	4,033,874	4,288,239	4,018,403	3,986,918	4,443,932

THE firm of Richard Meyers & Co. has been established (117, Place de Meir), to deal principally in India-rubber on a commission basis.

### Para.

KANTHACK & Co. reported:

September 30.—The past week has been characterized by a quieter tone in consequence of the lowering of values at the consuming markets, and with a weaker demand prices had to give



way to encourage business. At the modified prices business became more animated, but the market is to-day quite upset in consequence of a sudden and very considerable decline of exchange. Quotations are therefore quite nominal.

#### Rubber Receipts at Manaos.

DURING September and three months of the crop season for three years [courtesy of Messrs. Scholz & Co.] :

FROM—	SEPTEMBER.			JULY-SEPTEMBER.		
	1905.	1904.	1903.	1905.	1904.	1903.
Rio Purús—Acre..... tons	511	403	429	1167	909	886
Rio Madeira .....	316	193	263	786	672	755
Rio Jurúa.....	223	190	254	316	215	256
Rio Javary—Tiquitos. . .	444	68	71	564	281	185
Rio Solimões. . . . .	106	32	59	210	42	84
Rio Negro.....	1	3	...	6	3	15
Total.....	1600	889	1076	3049	2122	2181
Caucho.....	212	40	153	398	218	341
Total.....	1812	929	1209	3447	2340	2522

#### Bordeaux.

##### CAOUTCHOUC PRICES [FRANCS PER KILO] OCTOBER 14.

Soudan twists.....	9.50@10.	Gambia C.....	5.
Lahou twists.....	9.40@ 9 75	Lahou cakes.....	8.10@ 8.35
Soudan niggers.....	10.25@11.	Lahou niggers.....	10.10@10 80
Conakry niggers.....	11. @11.20	Bassam lumps.....	6. @ 6.25
Gambia A. P.....	8 50	Bassam niggers.....	7 50@ 9 25
Gambia A.....	7.80	M'dg'car—Tamatave 9.	@ 9.25
Gambia A. M.....	7.	Do Majunga.. 7.	@ 7.50
Gambia B.....	6.	Do Morandova 8.50@ 9.	

R. HENRY.

#### Rotterdam.

THE death is announced, at s' Graven Hage (The Hague), on October 14, of Heer JULIUS WEISE, head of the firm Weise & Co., long established as importers of India-rubber and Gutta-percha at Rotterdam.

#### Hamburg.

A CORRESPONDENT OF THE INDIA RUBBER WORLD writing from Liverpool on the statistical position of rubber says :

"Hamburg in particular is becoming every year a more important center for the importation of rubber, both African, Central American, and Brazilian, and it seems a great pity that those interested in the progress of Hamburg as a rubber market should not make some effort to demonstrate the importance of their market by the issuing of proper and reliable statistics."

#### Liverpool.

WILLIAM WRIGHT & Co. report [October 2] :

*Fine Para.*—The market has been quiet, with few fluctuations. The loss of the *Cyril* [see page 45 this issue] had comparatively little effect on the market. Manufacturers continue to buy sparingly, and sellers on the other hand are chary of offering far ahead, owing to uncertainty as to the future. The Pará and Manóas markets have been active throughout the month, and there has been some resumption of American buying, which was only to be expected. Receipts are fairly liberal, and are expected to continue heavy, so that, unless American buyers force prices—and we are glad to note so far they have shown no signs of doing so—we may expect an easement in prices.

*Africans* have been in good request during the month, and a fair business has been done. Owing to small supplies prices have in some cases advanced, more especially red Sierra Leone and Gold Coast lump; value of the former 4s. 2½d., and latter 2s. 6d., after having touched 2s. 4d.

EDMUND SCHLÜTER & Co. report [September 30] :

The market for Pará grades has been quiet, and with the exception of a short-lived advance to 5s. 8d., following the loss of 200 tons rubber in the steamer *Cyril*, prices of fine have tended in buyers' favor. Caucho advanced owing to scarcity of supplies. The tendency at the close was distinctly towards lower prices, and from Brazilian information it would appear that supplies will be equal or surpassing any normal demands.

The world's visible supply of Pará on September 30 was :

	1905.	1904.	1903.	1902.	1901.
Tons.....	2311	1719	1870	2759	2854
Prices, hard fine.....	5/5½	4/9½	4/8	3/1¼	3/8

#### LIVERPOOL STOCKS OF AFRICAN RUBBER, SEPTEMBER 30.

1905.....	266	1902....	524	1899....	580
1904.....	402	1901.....	722	1898.....	381
1903.....	217	1900....	725	1897.....	373

#### London.

EDWARD TILL & Co. report stocks [October 2] :

	1905.	1904.	1903.
Pará sorts..... tons	—	—	—
Borneo.....	71	52	14
Assam and Rangoon..	40	4	5
Penang.....	400	—	—
Other sorts.....	182	488	178
Total.....	693	544	197

Pará.....	305	220	243
Caucho.....	56	212	31
Other sorts.....	435	690	395

Total, United Kingdom.....1489

Total, September 1.....1694

#### PRICES PAID DURING SEPTEMBER.

	1905.	1904.	1903.
Pará fine, hard..	5/ 6¼@5/ 8	4/ 8¼@4/11½	4/ 2 @4/ 8¼
Do soft.....	5/ 5¼@5/ 7½	4/ 8¼@4/11	4/ 2 @4/ 7¼
Negroheads, scrappy..	3/11 @4/	3/ 7¼@3/10	3/ 3¼@3/ 8¼
Do Cameté.....	3/ 1¼@3/ 2	2/ 7¼@2/ 9	2/10¼
Bolivian.....	5/ 6¼@5/ 7½	4/ 4 @5/ 0¼	—
Caucho, ball.....	3/ 8¼@3/ 9½	3/ 2¼@3/ 5½	3/ 3¼@3/ 7½
Do slab.....	3/ 1½@3/ 2	2/ 9½@2/10	2/ 7¼@2/10¼
Do tails.....	3/ 3¼	No sales	3/ 1 @3/ 1½

#### IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

October 4.—By the steamer *Dunstan*, from Manóas and Pará :

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
General Rubber Co.....	113,706	14,800	95,800	1,600=	225,900
New York Commercial Co.	91,300	11,800	48,200	...	151,300
Poel & Arnold.....	51,900	6,700	72,700	3,200=	134,500
A. T. Morse & Co.....	16,800	3,700	28,400	2,000=	50,900
Neale & Co.....	1,400	...	70,800	...	72,200
Constantine P. Santos...	24,800	2,500	1,300	...	28,600
Lionel Hagenauers & Co.	24,000	...	4,100	...	28,100
Edmund Reeks & Co.....	19,700	900	3,900	...	24,500
Thomsen & Co.....	...	...	14,600	...	14,600
Hagemeyer & Brunn.....	13,700	...	...	...	13,700
Wallace L. Gough.....	...	...	5,700	...	5,700
Total.....	347,300	40,400	345,500	6,800=	750,000

October 16.—By the steamer *Maranhense*, from Manóas and Pará :

General Rubber Co.....	156,500	40,800	57,200	1,800=	256,300
New York Commercial Co.	109,100	17,900	43,700	...	170,700
Poel & Arnold.....	14,300	5,000	87,400	...	106,700
A. T. Morse & Co.....	4,100	1,300	68,900	400=	74,700
Neale & Co.....	1,800	...	41,100	...	42,900
Edmund Reeks & Co.....	20,400	300	13,400	...	34,100
Lionel Hagenauers & Co.	12,900	...	4,700	...	17,600

Total.. 319,100 65,300 316,400 2,200= 703,000

October 25.—By the steamer *Fluminense*, from Manóas and Pará :

New York Commercial Co.	331,000	59,800	92,400	6,600=	489,800
A. T. Morse & Co.....	143,400	19,400	55,600	1,400=	219,800
Poel & Arnold.....	92,800	22,500	59,900	1,300=	176,500
General Rubber Co.....	82,000	16,200	21,700	5,000=	124,900
Constantine P. San Tos..	24,400	5,500	10,500	3,100=	43,500
Edmund Reeks & Co.....	22,600	2,000	11,100	...	35,700
Neale & Co.....	1,000	300	29,100	...	30,400
Lionel Hagenauers & Co.	9,800	...	5,400	...	15,200
Lawrence Johnson & Co..	5,000	6,300	1,200	...	12,500
Hagemeyer & Brunn.....	...	...	11,300	...	11,300
Wallace L. Gough.....	...	...	3,800	...	3,800
Total.....	712,000	132,000	302,000	17,400=	1,163,400

[NOTE.—The steamer *Justin*, from Pará, is due at New York, November 4, with 450 tons Rubber.]

## PARA RUBBER VIA EUROPE.

		POUNDS.
SEPT. 25.—By the <i>Celtic</i> =Liverpool:		
A. T. Morse & Co (Coarse).....	11,500	
SEPT. 27.—By the <i>Caronia</i> =Liverpool:		
New York Commercial Co. (Fine)....	22,500	
A. T. Morse & Co. (Coarse).....	21,500	45,000
SEPT. 23.—By the <i>Finances</i> =Mollendo:		
Boston and Bolivia Co. (Fine).....	9,000	
OCT. 4.—By the <i>Majestic</i> =Liverpool:		
A. T. Morse & Co. (Coarse).....	11,000	
OCT. 14.—By the <i>Campania</i> =Liverpool:		
New York Commercial Co. (Fine)....	29,000	
OCT. 23.—By the <i>Celtic</i> =Liverpool:		
Poel & Arnold (Coarse).....	25,000	
OCT. 23.—By the <i>Alliance</i> =Mollendo:		
Boston and Bolivia Co. (Fine).....	8,500	

## OTHER ARRIVALS AT NEW YORK.

## CENTRALS.

		POUNDS.
SEPT. 25.—By the <i>Minneapolis</i> =London:		
General Rubber Co.....	33,500	
SEPT. 26.—By the <i>El Monte</i> =New Orleans:		
Manhattan Rubber Mfg. Co.....	2,000	
Eggers & Heinlein.....	2,200	
Thebaud Brothers.....	800	5,000
SEPT. 27.—By the <i>Sarnia</i> =Colombia:		
Fould & Co.....	3,000	
A. Heid.....	1,000	
Schultzen & Groehen.....	1,200	
Isaac Brandon & Bros.....	600	
A. D. Straus & Co.....	600	6,400
SEPT. 27.—By the <i>San Marcos</i> =Galveston:		
Continental Mexican Rubber Co....	70,000	
SEPT. 29.—By the <i>Finances</i> =Colon:		
Hirzel, Feltman & Co.....	2,400	
Eggers & Heinlein.....	1,500	
Mann & Emdon.....	1,000	4,900
SEPT. 30.—By the <i>Seguranea</i> =Mexico:		
H. Marquardt & Co.....	2,500	
Harburger & Stack.....	400	
American Trading Co.....	500	3,500
OCT. 2.—By the <i>Lampara</i> =Mobile:		
Manhattan Rubber Mfg. Co.....	5,500	
OCT. 2.—By the <i>Minnehaha</i> =London:		
General Rubber Co.....	13,500	
OCT. 4.—By the <i>Advances</i> =Colon:		
G. Amsinck & Co.....	8,100	
J. A. Medina & Co.....	5,100	
E. B. Strout.....	2,500	
D. A. De Lima & Co.....	2,000	
Hirzel, Feltman & Co.....	1,400	
Charles E. Griffin.....	1,400	
Roldan & Van Sickle.....	1,300	
Lawrence Johnson & Co.....	500	
Meyer Hecht.....	500	
Harburger & Stack.....	500	23,000
OCT. 7.—By the <i>Fucatan</i> =Mexico:		
Harburger & Stack.....	2,000	
Thebaud Brothers.....	2,500	
H. Marquardt & Co.....	1,500	
E. Steiger & Co.....	1,000	
W. Loalza & Co.....	500	7,500
OCT. 7.—By the <i>Cedric</i> =Liverpool:		
General Rubber Co.....	17,000	
OCT. 9.—By the <i>El Alba</i> =Galveston:		
Continental Mexican Rubber Co....	30,000	
Eggers & Heinlein.....	1,500	31,500
OCT. 10.—By the <i>Cevic</i> =Liverpool:		
J. H. Rosbach & Bros.....	15,500	
OCT. 11.—By the <i>Mexico</i> =Colon:		
Lawrence Johnson & Co.....	21,100	
Hirzel, Feltman & Co.....	15,400	
Dumarest Bros. & Co.....	9,100	
G. Amsinck & Co.....	4,400	
Roldan & Van Sickle.....	4,300	
Isaac Brandon & Bros.....	3,000	
A. Santos & Co.....	2,500	
Mann & Emdon.....	2,000	
A. M. Capen's Sons.....	2,000	
W. R. Grace.....	1,600	
R. L. Balliza.....	1,200	
Banco de Exportaciones.....	1,000	
Kunhardt & Co.....	500	69,100

## CENTRALS—Continued.

OCT. 11.—By the <i>Matanzas</i> =Mexico:		
George A. Alden & Co.....	22,500	
J. W. Wilson & Co.....	4,000	
Harburger & Stack.....	1,000	27,500
OCT. 11.—By the <i>Rio Grande</i> =Mobile:		
A. T. Morse & Co.....	4,500	
Manhattan Rubber Mfg. Co.....	1,500	6,000
OCT. 14.—By the <i>Tintoretto</i> =Bahia:		
Hirsch & Kaiser.....	45,000	
American Commercial Co.....	22,500	67,500
OCT. 14.—By the <i>Esperanza</i> =Mexico:		
L. N. Chemedin & Co.....	1,500	
Fred Probst & Co.....	1,200	
Harburger & Stack.....	1,100	
Thebaud Brothers.....	1,000	
E. Steiger & Co.....	1,200	6,000
OCT. 17.—By the <i>Havana</i> =Colon:		
G. Amsinck & Co.....	11,100	
E. B. Strout.....	3,800	
Smithers, Nordenholt & Co.....	1,300	
J. A. Medina & Co.....	1,800	
Hirzel, Feltman & Co.....	2,500	
Mann & Emdon.....	1,800	
Lawrence Johnson & Co.....	2,000	
Banco de Exportaciones.....	1,500	
Isaac Brandon & Bros.....	700	
United Fruit Co.....	700	
Landman & Kemp.....	500	27,700
OCT. 17.—By the <i>El Dia</i> =Galveston:		
Continental Mexican Rubber Co....	22,500	
OCT. 19.—By the <i>Alamo</i> =Mobile:		
A. N. Rotholz.....	6,000	
A. T. Morse & Co.....	5,000	
G. Amsinck & Co.....	1,000	12,000
OCT. 20.—By the <i>Maraval</i> =Bolívar:		
Thebaud Brothers.....	22,500	
European Account.....	12,000	34,500
OCT. 23.—By the <i>Vigilancia</i> =Mexico:		
H. Marquardt & Co.....	1,000	
American Trading Co.....	500	
E. N. Tibbals Co.....	500	
Graham, Hinkley & Co.....	500	2,500
OCT. 23.—By the <i>Alliance</i> =Colon:		
Hirzel, Feltman & Co.....	13,300	
G. Amsinck & Co.....	7,800	
Piza, Nephews & Co.....	5,000	
J. A. Medina & Co.....	4,500	
E. B. Strout.....	1,500	
Meyer Hecht.....	800	
George A. Alden & Co.....	800	35,000
OCT. 23.—By the <i>Byron</i> =Bahia:		
Hirsch & Kaiser.....	11,500	
American Commercial Co.....	8,500	
A. D. Hitch & Co.....	6,000	
Lawrence Johnson & Co.....	3,000	29,000

## AFRICANS.

		POUNDS.
SEPT. 25.—By the <i>Celtic</i> =Liverpool:		
A. T. Morse & Co.....	41,000	
Poel & Arnold.....	23,000	
George A. Alden & Co.....	11,500	
General Rubber Co.....	11,500	
A. W. Brunn.....	8,500	
Wallace L. Gough.....	3,100	98,500
SEPT. 26.—By the <i>Finland</i> =Antwerp:		
Poel & Arnold.....	30,000	
A. T. Morse & Co.....	21,000	51,000
SEPT. 25.—By the <i>Ryndam</i> =Rotterdam:		
Poel & Arnold.....	35,000	
SEPT. 26.—By the <i>Patria</i> =Lisbon:		
General Rubber Co.....	45,000	
SEPT. 27.—By the <i>Caronia</i> =Liverpool:		
General Rubber Co.....	80,000	
George A. Alden & Co.....	18,000	98,000
SEPT. 27.—By the <i>Oceanic</i> =Liverpool:		
A. W. Brunn.....	22,500	
Wallace L. Gough.....	20,000	
General Rubber Co.....	14,000	
George A. Alden & Co.....	11,000	67,500
SEPT. 29.—By the <i>Batavia</i> =Hamburg:		
A. T. Morse & Co.....	46,000	
General Rubber Co.....	13,500	
George A. Alden & Co.....	4,500	
Poel & Arnold.....	4,000	68,000
SEPT. 30.—By the <i>Lucania</i> =Liverpool:		
General Rubber Co.....	90,000	
George A. Alden & Co.....	15,000	105,000
OCT. 2.—By the <i>Vaderland</i> =Antwerp:		
George A. Alden & Co.....	102,000	

## AFRICANS—Continued.

General Rubber Co.....		50,000
Poel & Arnold.....		46,000
Joseph Cantor.....		47,000
Robinson & Tallman.....		25,000
Rubber Trading Co.....		17,000
OCT. 3.—By the <i>Victorian</i> =Liverpool:		294,000
Wallace L. Gough.....		29,000
General Rubber Co.....		30,000
Poel & Arnold.....		14,000
OCT. 4.—By the <i>Majestic</i> =Liverpool:		73,000
George A. Alden & Co.....		9,000
Rubber Trading Co.....		9,000
Poel & Arnold.....		3,000
OCT. 5.—By the <i>Pennsylvania</i> =Hamburg:		21,000
General Rubber Co.....		35,500
George A. Alden & Co.....		11,500
OCT. 7.—By the <i>Cedric</i> =Liverpool:		45,000
George A. Alden & Co.....		22,500
A. T. Morse & Co.....		15,500
Poel & Arnold.....		11,500
A. W. Brunn.....		4,000
OCT. 9.—By the <i>Etruria</i> =Liverpool:		53,500
General Rubber Co.....		56,000
George A. Alden & Co.....		11,000
OCT. 9.—By the <i>La Bretagne</i> =Havre:		67,000
Rubber Trading Co.....		9,000
H. A. Gould Co.....		3,500
OCT. 10.—By the <i>Cevic</i> =Liverpool:		12,500
Wallace L. Gough.....		15,500
OCT. 10.—By the <i>Bismarck</i> =Hamburg:		
Poel & Arnold.....		32,000
A. T. Morse & Co.....		16,000
General Rubber Co.....		10,000
George A. Alden & Co.....		4,000
OCT. 12.—By the <i>Baltic</i> =Liverpool:		63,000
A. T. Morse & Co.....		29,000
Poel & Arnold.....		16,000
Robert Crooks & Co.....		13,500
OCT. 14.—By the <i>Campania</i> =Liverpool:		58,500
General Rubber Co.....		10,000
OCT. 18.—By the <i>Georgie</i> =Liverpool:		
A. T. Morse & Co.....		33,000
Poel & Arnold.....		22,000
Wallace L. Gough.....		15,000
A. W. Brunn.....		12,000
OCT. 19.—By the <i>Rhein</i> =Bremen:		82,000
General Rubber Co.....		27,000
OCT. 19.—By the <i>Teutonic</i> =Liverpool:		
George A. Alden & Co.....		11,500
Poel & Arnold.....		5,500
Henry A. Gould Co.....		5,000
A. T. Morse & Co.....		2,000
OCT. 20.—By the <i>Patricia</i> =Hamburg:		24,000
George A. Alden & Co.....		33,000
Poel & Arnold.....		87,000
OCT. 21.—By the <i>La Touraine</i> =Havre:		70,000
General Rubber Co.....		28,500
OCT. 23.—By the <i>Umbria</i> =Liverpool:		
Poel & Arnold.....		9,000
George A. Alden & Co.....		6,500
OCT. 23.—By the <i>Celtic</i> =Liverpool:		15,500
A. T. Morse & Co.....		13,500
Wallace L. Gough.....		8,000
Joseph Cantor.....		2,500
OCT. 11.—By the <i>Clan McMillan</i> =Calcutta:		21,000
J. H. Recknagel & Son.....		2,000
Poel & Arnold.....		1,500
George A. Alden & Co.....		1,100

## EAST INDIAN.

SEPT. 25.—By the <i>Indramayo</i> =Singapore:	
Robert Brans & Co.....	22,500
Pierre T. Betts.....	20,000
A. T. Morse & Co.....	10,000
Winter & Smillie.....	5,000
SEPT. 29.—By the <i>Batavia</i> =Hamburg:	
General Rubber Co.....	5,500
OCT. 2.—By the <i>New York</i> =London:	
Wallace L. Gough.....	6,500
Rubber Trading Co.....	4,500
George A. Alden & Co.....	7,500
OCT. 5.—By the <i>African Prince</i> =Singapore:	
Poel & Arnold.....	22,500
F. B. Vandergrift & Co.....	5,500
OCT. 7.—By the <i>St. Louis</i> =London:	
Poel & Arnold.....	22,500
OCT. 11.—By the <i>Clan McMillan</i> =Calcutta:	
J. H. Recknagel & Son.....	2,000
Poel & Arnold.....	1,500
George A. Alden & Co.....	1,100

## EAST INDIAN—Continued.

OCT. 17.—By the <i>Mescha</i> =London:	
George A. Alden & Co.....	2,000
Wallace L. Gough.....	2,000 4,000
OCT. 17.—By the <i>St. Hugo</i> =Singapore:	
Pierre T. Betts.....	20,000
George A. Alden & Co.....	11,000
Wallace L. Gough.....	4,000 35,000
OCT. 20.—By the <i>Patricia</i> =Hamburg:	
A. T. Morse & Co.....	2,500
Robinson & Tallman.....	2,500 5,000
OCT. 21.—By the <i>Kennebec</i> =Singapore:	
Pierre T. Betts.....	13,500
A. T. Morse & Co.....	13,500
Poel & Arnold.....	10,000
Wallace L. Gough.....	8,000 45,000
OCT. 23.—By the <i>St. Paul</i> =London:	
Poel & Arnold.....	4,500

## GUTTA-JELUTONG.

SEPT. 25.—By the <i>Indramayo</i> =Singapore:	
Heabler & Co.....	260,000
George A. Alden & Co.....	175,000
D. A. Shaw & Co.....	100,000
Robert Brans & Co.....	85,000
Robinson & Tallman.....	100,000
Pierre T. Betts.....	35,000
Wallace L. Gough.....	35,000 700,000
OCT. 5.—By the <i>African Prince</i> =Singapore:	
George A. Alden & Co.....	10,000
J. H. Recknagel & Sons.....	100,000
Poel & Arnold.....	85,000
Pierre T. Betts.....	11,000 253,000
OCT. 17.—By the <i>St. Hugo</i> =Singapore:	
Wallace L. Gough.....	410,000
J. H. Recknagel & Sons.....	100,000
Heabler & Co.....	80,000
Pierre T. Betts.....	11,000 571,000
OCT. 21.—By the <i>Kennebec</i> =Singapore:	
Heabler & Co.....	285,000
George A. Alden & Co.....	185,000
Pierre T. Betts.....	150,000
Poel & Arnold.....	80,000

## EAST INDIAN.—Continued.

Winter & Smillie.....	100,000
Robert T. Brans & Co.....	100,000
Wallace L. Gough.....	65,000
Robinson & Tallman.....	100,000 1,015,000

## GUTTA-PERCHA AND BALATA.

SEPT. 25.—By the <i>Indramayo</i> =Singapore:	
George A. Alden & Co.....	11,000
SEPT. 29.—By the <i>Botavia</i> =Hamburg:	
To Order.....	7,000
OCT. 5.—By the <i>African Prince</i> =Singapore:	
George A. Alden & Co.....	25,000
OCT. 17.—By the <i>St. Hugo</i> =Singapore:	
George A. Alden & Co.....	22,500
Winter & Smillie.....	2,000 24,500
OCT. 20.—By the <i>Patricia</i> =Hamburg:	
To Order.....	20,000
OCT. 21.—By the <i>Kennebec</i> =Singapore:	
Robert Brans & Co.....	15,000

## BALATA.

SEPT. 28.—By the <i>Grenada</i> =Trinidad:	
Frame & Co.....	5,000
OCT. 2.—By the <i>New York</i> =London:	
Earle Brothers.....	6,500
OCT. 4.—By the <i>Majestic</i> =Liverpool:	
Henry A. Gould.....	4,500
OCT. 9.—By the <i>Maraval</i> =Trinidad:	
Theband Brothers.....	13,500
OCT. 10.—By the <i>Potadam</i> =Rotterdam:	
Earle Brothers.....	11,000
OCT. 18.—By the <i>Uller</i> =Demerara:	
Middleton & Co.....	5,000
Charles P. Shilstone.....	9,000 14,000
OCT. 20.—By the <i>Patricia</i> =Hamburg:	
A. W. Bruhn.....	2,000

## GUTTA-PERCHA AND BALATA—Continued.

OCT. 20.—By the <i>Maracas</i> =Cuidad Bolivar:	
A. H. Wappans.....	15,000
Frame & Co.....	1,500 16,500

## CUSTOM HOUSE STATISTICS.

## PORT OF NEW YORK—SEPTEMBER.

Imports:	POUNDS.	VALUE.
India-rubber.....	4,791,795	\$2,562,487
Gutta-percha.....	88,392	18,961
Gutta-jelutong (Pontianak).....	2,248,414	74,800
Total.....	7,131,601	\$3,056,308
Exports:	POUNDS.	VALUE.
India-rubber.....	128,594	\$111,721
Reclaimed rubber.....	234,920	25,991
Rubber Scrap Imported.....	2,481,788	\$146,342

## BOSTON ARRIVALS.

	POUNDS.
AUG. 1.—By the <i>Arramore</i> =Antwerp:	
Poel & Arnold—African.....	5,877
AUG. 4.—By the <i>Sylvania</i> =Liverpool:	
George A. Alden & Co.—African.....	432
AUG. 7.—By the <i>Republic</i> =Liverpool:	
F. R. Müller & Co.—African.....	9,173
AUG. 9.—By the <i>Buceros</i> =Calcutta:	
George A. Alden & Co.—East Indian.....	6,456
AUG. 18.—By the <i>Mariefels</i> =Calcutta:	
George A. Alden & Co.—East Indian.....	3,363
AUG. 22.—By the <i>Michigan</i> =Liverpool:	
George A. Alden & Co.—East Indian.....	487
Total.....	25,738

[Value, \$14,780.]

## OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

## UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905.....	2,297,029	217,509	2,079,520
January-July.....	42,382,481	1,835,143	40,547,338
Eight months, 1905.....	44,679,510	2,052,652	42,626,858
Eight months, 1904.....	41,630,173	2,220,818	39,409,355
Eight months, 1903.....	38,655,112	1,984,816	36,670,296

## GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905.....	3,402,080	1,714,020	1,688,060
January-July.....	26,284,060	8,455,700	17,828,360
Eight months, 1905.....	29,686,140	10,169,720	19,516,420
Eight months, 1904.....	23,755,600	6,587,680	17,167,920
Eight months, 1903.....	23,468,940	7,768,420	15,700,520

## FRANCE.\*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905.....	1,710,720	1,310,760	399,960
January-July.....	16,462,820	9,477,820	6,985,000
Eight months, 1905.....	18,173,540	10,788,580	7,384,960
Eight months, 1904.....	13,076,820	7,431,160	5,645,660
Eight months, 1903.....	10,738,420	6,118,200	4,620,220

## BELGIUM ‡

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905.....	1,593,191	942,595	650,593
January-July.....	10,172,439	7,314,076	2,858,363
Eight months, 1905.....	11,765,630	8,256,674	3,508,956
Eight months, 1904.....	11,699,384	9,727,955	1,971,429
Eight months, 1903.....	10,470,295	8,134,959	2,335,336

## GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905.....	4,769,184	2,666,720	2,102,464
January-July.....	37,519,776	20,445,720	17,074,056
Eight months, 1905.....	42,288,960	23,112,440	19,176,520
Eight months, 1904.....	38,298,848	22,141,062	16,157,786
Eight months, 1903.....	35,090,272	25,428,032	9,662,240

## ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905.....	205,040	70,400	134,640
January-July.....	954,360	147,620	806,740
Eight months, 1905.....	1,159,400	218,020	941,380
Eight months, 1904.....	1,051,820	75,460	976,360
Eight months, 1903.....	1,075,800	100,760	975,040

## AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905.....	145,640		145,640
January-July.....	1,842,940	21,340	1,821,600
Eight months, 1905.....	1,988,580	21,340	1,967,240
Eight months, 1904.....	1,931,600	15,180	1,916,420
Eight months, 1903.....	1,984,400	17,160	1,967,240

NOTE.—German statistics include Gutta-percha, Balata, old (waste) rubber, and substitutes. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

\*General Commerce.

‡ Special Commerce.



# BUYERS' DIRECTORY OF THE RUBBER TRADE.

CLASSIFIED LIST OF MANUFACTURERS AND DEALERS IN INDIA-RUBBER GOODS AND RUBBER MANUFACTURERS' SUPPLIES.

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Alton Machine Co.....	XXVII	Davol Rubber Co.....	XXIV	Scheel, Wm. H.....	XXVI
Akron Rubber Works.....	XXIX	Devine, Joseph F.....	XXVI	Schnurmann, J.....	XXV
Alden & Co., Geo. A.....	XXII, XXIV	Dixon Crucible Co., Jos.....	XXVI	Schrader's Son, Inc., A.....	XXV
Alkali Rubber Co.....	XXIII	Egestoft's (Georg) Salzwärke.....	XXVII	Seamless Rubber Co.....	XXV
American Hard Rubber Co.....	XXV	Empire Rubber Mfg. Co.....	XXII	Sharples, Stephen P.....	XXII
American Process Co.....	XXV	Eureka Fire Hose Co.....	XXIV	Sheip Mfg. Co., Henry H.....	XXIX
American Rubber Reclaiming Co.....	XXV	Eureka Rubber Mfg. Co.....	XXI	South American Commercial Agency.....	XXIV
American Tool & Machine Co.....	XXIX	Fabric Fire Hose Co.....	XXIV	Speaight, Geo. W.....	I
Appleton & Son, F. H.....	XXIII	Faurel Foundry & Machine Co.....	XXIII	Springfield Tire & Rubber Co.....	XXV
Atlas Chemical Co.....	XVI	Faultless Rubber Co.....	XXIV	Stamford Rubber Supply Co.....	XXVII
Bailey & Co., C. J.....	XXIV	Fine, Horace B.....	XXVIII	Standard Rubber Co.....	XXV
Barrett Mfg. Co.....	XXVII	Gabriel & Schall.....	XXVII	Stokes Rubber Co., Jos.....	XVI
Bastille & Renwick.....	XXVII	Goodrich Co., B. F.....	XXIX	Sturtevant Co., B. F.....	XXV
Bats & Co.....	XXV	Granby Rubber Co.....	XXI	Taintor Mfg. Co., H. F.....	VII
Birkenstein & Sons, S.....	XXV	Gutta Percha & Rubber Mfg. Co., Ltd.....	LII	Textile-Finishing Machinery Co.....	XXV
Birmingham Iron Foundry Wks.....	XXIV	Gutta Percha & Rubber Mfg. Co., Toronto.....	LII	Thropp, William E.....	XXII
Bloomington Soft Rubber Wks.....	XXII	Hagemeyer & Bruhn.....	XXIV	Toch Bros.....	XXVII
Boomer & Boschert Press Co.....	XXV	Hardman Rubber Co.....	XXIV	Trenton Rubber Mfg. Co.....	IX
Boston Belting Co.....	XXIII	Heyl-Dia, George, H.....	XXII	"Tropical Agriculturist".....	LI
Boston Rubber Shoe Co.....	XXVII	Hidalgo Plantation & Commercial Co.....	XXI	Turner, Vaughn & Taylor Co.....	XXI
Boston Woven Hose & Rubber Co.....	V	Hirsch & Kaiser, Inc.....	XXIV	Tyer Rubber Co.....	LII
Bowers Rubber Co.....	VIII	Hodgman Rubber Co.....	VI	Type & King.....	XXVII
Broomfield & Co., Philip.....	XXV	Hofeller & Co., Theodore.....	XXV	United States Rubber Co.....	XXVII
Brunn, A. W.....	XXIV	Hoggson & Pettis Mfg. Co.....	XXV	U. S. Rubber Reclaiming Wks.....	XXX
Cabot, Samuel.....	I	Holmes Bros.....	XXV	U. S. Waste Rubber Co.....	XXX
Canadian Rubber Co. of Montreal.....	II	Home Rubber Co.....	IX		
Candfield Rubber Co.....	XXVIII	Hood Rubber Co.....	LII	Voorhees Rubber Mfg. Co.....	V
Cantor, Joseph.....	XXVII	India-Rubber Pub. Co.....	XL	Wanted and For Sale.....	XXXIX
Chicago Rubber Wks.....	XX	Jenkins Bros.....	X	Weld Mfg. Co.....	I
Clapp Rubber Co., E. H.....	XXIX	"Journal d'Agriculture Tropicale".....	LI	Wellman Sole Cutting Machine Co.....	XXVI
Clark, Edred W.....	XXI	Kimball, Herbert S.....	XXIX	White, T. & S. C.....	XXVII
Cleveland Rubber Wks.....	XXI	Kokomo Rubber Co.....	X	Williams & Bros., J. F.....	XXVII
Coleman Co., W. C.....	XXV	La Crosse Rubber Mills Co.....	XXII	Wirt & Knox Mfg. Co.....	XXII
Combination Rubber Mfg. Co.....	VI	Lake Shore Rubber Co.....	VIII	Wolpert, M. J.....	XXI
Continental Caoutchouc & Gutta Percha Co., Ltd.....	XXIII			Woodman, Ph.D., Durand.....	XXVII
Cravenette Co., Ltd.....	I			Yerdon, William.....	XXVIII
Cummings & Sons, Wm. H.....	XXV				

## MECHANICAL RUBBER GOODS

**Belting.**  
**Diaphragms.**  
**Gaskets.**  
**Hose (Fire, Garden, Steam).**  
**Mats and Matting.**  
**Mould Work.**  
**Packing.**  
**Valves.**  
**Washers.**

### Mechanical Rubber Goods—General.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Bowers Rubber Co., San Francisco, Cal.  
 Canadian Rubber Co. of Montreal.  
 Chicago Rubber Wks., Chicago.  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber Mfg. Co., Bloomfield, N. J.  
 Continental Caoutchouc & Gutta Percha Co., Hanover, Germany.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Eureka Fire Hose Co., New York.  
 Eureka Rubber Mfg. Co. of Trenton.  
 B. F. Goodrich Co., Akron, O.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 Gutta Percha & Rubber Mfg. Co., Toronto.  
 Home Rubber Co., Trenton, N. J.  
 Lake Shore Rubber Co., Erie, Pa.  
 Liverpool Rubber Co., Liverpool, Eng.  
 Manhattan Rubber Mfg. Co., New York.  
 Mechanical Rubber Co., New York.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.  
 New York Rubber Co., New York.  
 North British Rubber Co., Ltd., Edinburgh.  
 Peerless Rubber Mfg. Co., New York.  
 Pirelli & Co., Milan, Italy.  
 Republic Rubber Co., Youngstown, Ohio.

### Mechanical Goods—General.—Continued.

Revere Rubber Co., Boston.  
 Springfield Tire & Rubber Co., Springfield, Ohio.  
 Standard Rubber Co., Trenton, N. J.  
 Jos. Stokes Rubber Co., Trenton, N. J.  
 Trenton Rubber Mfg. Co., Trenton, N. J.  
 Voorhees Rubber Mfg. Co., Jersey City.

### Air Brake Hose.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Canadian Rubber Co. of Montreal.  
 Combination Rubber Mfg. Co., Bloomfield, N. J.  
 Eureka Rubber Mfg. Co. of Trenton.  
 B. F. Goodrich Co., Akron, O.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 Home Rubber Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City.

### Peerless Rubber Mfg. Co., New York.

Republic Rubber Co., Youngstown, Ohio.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

### Belting (Canvas).

Boston Woven Hose & Rubber Co.  
 Canadian Rubber Co. of Montreal.  
 Eureka Fire Hose Co., New York.  
 Peerless Rubber Mfg. Co., New York.  
 Revere Rubber Co., Boston-New York.

### Billiard Cushions.

Boston Belting Co., Boston.  
 Canadian Rubber Co. of Montreal.  
 Combination Rubber Mfg. Co., Bloomfield, N. J.  
 B. F. Goodrich Co., Akron, O.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 Manhattan Rubber Mfg. Co., New York.  
 New York Belting & Packing Co., Ltd.  
 New York Rubber Co., New York.  
 Revere Rubber Co., Boston-New York.

### Blankets—Printers'.

Boston Belting Co., Boston.  
 Canadian Rubber Co. of Montreal.  
 B. F. Goodrich Co., Akron, O.

### Blankets—Printers'—Continued.

Gutta Percha & Rubber Mfg. Co., N. Y.  
 Hodgman Rubber Co., New York.  
 Liverpool Rubber Co., Liverpool, Eng.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

### Brushes.

C. J. Bailey & Co., Boston.

### Buffers.

Boston Belting Co., Boston-New York.  
 Canadian Rubber Co. of Montreal.  
 B. F. Goodrich Co., Akron, O.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 Liverpool Rubber Co., Ltd., Liverpool.

### Card Cloths.

Canadian Rubber Co. of Montreal.  
 Mechanical Fabric Co., Providence, R. I.

### Carriage Mats.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Canadian Rubber Co. of Montreal.  
 B. F. Goodrich Co., Akron, O.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 Home Rubber Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

### Cord (Pure Rubber).

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Cleveland Rubber Co., Cleveland, O.  
 Davol Rubber Co., Providence, R. I.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 B. F. Goodrich Co., Akron, O.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.

### Cord (Pure Rubber)—Continued.

Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

### Deckle Straps.

Boston Belting Co., Boston.  
 B. F. Goodrich Co., Akron, O.  
 Liverpool Rubber Co., Liverpool, Eng.  
 Mechanical Rubber Co., Chicago.  
 New York Belting & Packing Co., N. Y.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.

### Door Springs.

Hodgman Rubber Co., New York.

### Dredging Sleeves.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 B. F. Goodrich Co., Akron, O.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 Home Rubber Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City.  
 Republic Rubber Co., Youngstown, O.

### Force Cups.

Hodgman Rubber Co., New York.

### Fruit Jar Rings.

Boston Woven Hose & Rubber Co.  
 Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 B. F. Goodrich Co., Akron, O.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Eureka Rubber Mfg. Co. of Trenton.  
 Manhattan Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, Ohio.  
 New York Belting & Packing Co., N. Y.

### Fuller Balls.

B. F. Goodrich Co., Akron, O.  
 N. J. Car Spring & Rubber Co., Jersey City.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.

## RUBBER BUYERS' DIRECTORY—CONTINUED.

## Gage Glass Washers.

Boston Belting Co., Boston, Mass.  
Canadian Rubber Co. of Montreal.  
Cleveland Rubber Co., Cleveland, O.  
Empire Rubber Mfg. Co., Trenton, N. J.  
B. F. Goodrich Co., Akron, O.  
Home Rubber Co., Trenton, N. J.  
Liverpool Rubber Co., Liverpool, Eng.  
Manhattan Rubber Mfg. Co., New York.  
Mechanical Rubber Co., Chicago, Ill.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
New York Rubber Co., New York.  
Revere Rubber Co., Boston, Mass.  
Jos. Stokes Rubber Co., Trenton, N. J.  
Voorhees Rubber Mfg. Co., Jersey City, N. J.

## Gas-Bags (Rubber).

Canadian Rubber Co. of Montreal.  
Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Liverpool Rubber Co., Liverpool, Eng.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
Peerless Rubber Mfg. Co., New York.  
Tyer Rubber Co., Andover, Mass.  
Voorhees Rubber Mfg. Co., Jersey City.

## Gasket Tubing.

Canadian Rubber Co. of Montreal.  
B. F. Goodrich Co., Akron, O.  
Jenkins Bros., New York.  
Revere Rubber Co., Boston.

## Hat Bags.

Boston Belting Co., Boston.  
Canadian Rubber Co. of Montreal.  
B. F. Goodrich Co., Akron, O.  
Home Rubber Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York.  
Mattson Rubber Co.  
Mechanical Rubber Co., Chicago.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
New York Rubber Co., New York.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston.

## Horse Shoe Pads.

Canadian Rubber Co. of Montreal.  
Home Rubber Co., Trenton, N. J.  
Peerless Rubber Mfg. Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.

## Hose—Armored.

## Hose—Wire Wound.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Canadian Rubber Co. of Montreal.  
B. F. Goodrich Co., Akron, O.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
N. J. Car Spring & Rubber Co., Jersey City.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.

## Hose Couplings and Fittings.

Boston Woven Hose & Rubber Co.  
Canadian Rubber Co. of Montreal.

## Hose Linings.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
B. F. Goodrich Co., Akron, O.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
Peerless Rubber Mfg. Co., New York.  
Revere Rubber Co., Boston.

## Hose—Protected.

Boston Belting Co., Boston-New York.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.

## Hose Racks and Reels.

Gutta Percha & Rubber Mfg. Co., N. Y.  
Wirt & Knox Mfg. Co., Philadelphia.

## Hose—Rubber Lined.

## COTTON AND LINEN.

Boston Belting Co., Boston-New York  
Boston Woven Hose & Rubber Co.  
Gutta Percha & Rubber Mfg. Co., N. Y.

## COTTON AND LINEN.

Canadian Rubber Co. of Montreal.  
Cleveland Rubber Co., Cleveland, O.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Fire Hose Co., New York.  
Eureka Rubber Mfg. Co. of Trenton.  
Fabric Fire Hose Co., New York.  
B. F. Goodrich Co., Akron, O.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Gutta Percha and Rubber Mfg. Co. of Toronto.  
Home Rubber Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston.  
Jos. Stokes Rubber Co., Trenton, N. J.  
Voorhees Rubber Mfg. Co., Jersey City.

## Hose—Submarine.

Boston Belting Co., Boston-New York.  
B. F. Goodrich Co., Akron, O.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston.

## "Jenkins '96" Packing.

Jenkins Bros., New York.

## Lawn Sprinklers.

Boston Woven Hose & Rubber Co.  
Canadian Rubber Co. of Montreal.

## Mallets (Rubber).

Boston Belting Co., Boston-New York.  
B. F. Goodrich Co., Akron, O.  
Peerless Rubber Mfg. Co., New York.  
Revere Rubber Co., Boston-New York.

## Mould Work.

## [See Mechanical Rubber Goods.]

Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
Hardman Rubber Co., Belleville, N. J.  
Hodgman Rubber Co., New York.  
La Crosse (Wis.) Rubber Mills Co.  
Mattson Rubber Co., New York.  
Mittel Rubber Co., Akron, O.  
National India Rubber Co., Bristol, R. I.  
Plymouth Rubber Co., Stoughton, Mass.  
Tyer Rubber Co., Andover, Mass.

## "Nubian" Packing.

Voorhees Rubber Mfg. Co., Jersey City.

## Oil Well Supplies.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
B. F. Goodrich Co., Akron, O.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Home Rubber Co., Trenton, N. J.  
Lake Shore Rubber Co., Erie, Pa.  
N. J. Car Spring & Rubber Co., Jersey City.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-Pittsburgh.  
Voorhees Rubber Mfg. Co., Jersey City.

## Paper Machine Rollers.

Boston Belting Co., Boston-New York  
B. F. Goodrich Co., Akron, O.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Republic Rubber Co., Boston-New York.  
Peerless Rubber Mfg. Co., New York.  
Voorhees Rubber Mfg. Co., Jersey City.

## Plumbers' Supplies.

Canadian Rubber Co. of Montreal.  
B. F. Goodrich Co., Akron, O.  
Republic Rubber Co., Youngstown, O.

## Pump Valves.

## [See Mechanical Rubber Goods.]

B. F. Goodrich Co., Akron, O.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Jenkins Bros., New York.  
Revere Rubber Co., Boston.

## Rollers—Rubber Covered.

Boston Belting Co., Boston.  
Canadian Rubber Co. of Montreal.  
Cleveland Rubber Co., Cleveland, O.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Rubber Mfg. Co. of Trenton.  
B. F. Goodrich Co., Akron, O.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Home Rubber Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York.  
Mechanical Rubber Co., Chicago.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
Peerless Rubber Mfg. Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston New York.

## Sewing Machine Rubbers.

B. F. Goodrich Co., Akron, O.

## Springs—Rubber.

Boston Belting Co., Boston-New York.  
Canadian Rubber Co. of Montreal.  
B. F. Goodrich Co., Akron, O.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Hardman Rubber Co., Belleville, N. J.  
Liverpool Rubber Co., Liverpool, Eng.  
N. J. Car Spring & Rubber Co., Jersey City.  
Peerless Rubber Mfg. Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Republic Rubber Co., Youngstown, Ohio.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.

## Stair Treads.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Canadian Rubber Co. of Montreal.  
Cleveland Rubber Co., Cleveland, O.  
Empire Rubber Mfg. Co., Trenton, N. J.  
B. F. Goodrich Co., Akron, O.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Home Rubber Co., Trenton, N. J.  
Liverpool Rubber Co., Liverpool, Eng.  
Manhattan Rubber Mfg. Co., New York.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
New York Rubber Co., New York.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.

## Thread.

B. F. Goodrich Co., Akron, O.  
Mechanical Fabric Co., Providence, R. I.  
Revere Rubber Co., Boston.

## Tiling.

Canadian Rubber Co. of Montreal, Ltd.  
B. F. Goodrich Co., Akron, O.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
N. J. Car Spring & Rubber Co., Jersey City.  
New York Belting & Packing Co., N. Y.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, Ohio.  
Voorhees Rubber Mfg. Co., Jersey City.

## Tires.

## AUTOMOBILE, BICYCLE, AND CARRIAGE.

Canadian Rubber Co. of Montreal, Ltd.  
Continental Caoutchouc & Guttapercha Co., Hanover.  
Empire Rubber Mfg. Co., Trenton, N. J.  
B. F. Goodrich Co., Akron, O.  
Gutta Percha & Rubber Mfg. Co., Toronto.  
Kokomo Rubber Co., Kokomo, Ind.  
Lake Shore Rubber Co., Erie, Pa.  
Liverpool Rubber Co., Liverpool, Eng.  
North British Rubber Co., Ltd., Edinburgh.  
Plymouth Rubber Co., Stoughton, Mass.  
Republic Rubber Co., Youngstown, O.

## Tires.—Continued.

## AUTOMOBILE AND CARRIAGE.

Boston Belting Co., Boston-New York.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
Revere Rubber Co., Boston-New York.  
Springfield Tire & Rubber Co., Springfield, Ohio.

## Tubing.

## [See Mechanical Rubber Goods.]

American Hard Rubber Co., New York.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hardman Rubber Co., Belleville, N. J.  
Plymouth Rubber Co., Stoughton, Mass.  
Tyer Rubber Co., Andover, Mass.

## Valve Balls.

Boston Belting Co., Boston.  
Cleveland Rubber Co., Cleveland, O.  
B. F. Goodrich Co., Akron, O.  
Manhattan Rubber Mfg. Co., New York.  
Mechanical Rubber Co., Chicago.  
New York Belting & Packing Co., N. Y.  
New York Rubber Co., New York.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston.

## Valve Discs.

American Hard Rubber Co., New York.  
Boston Belting Co., Boston-New York.  
B. F. Goodrich Co., Akron, O.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.

## Valves.

## [See Mechanical Rubber Goods.]

Gutta Percha & Rubber Mfg. Co., N. Y.  
Jenkins Bros., New York-Chicago.  
Plymouth Rubber Co., Stoughton, Mass.

## Wringer Rolls.

Canadian Rubber Co. of Montreal.  
Cleveland Rubber Co., Cleveland, O.  
B. F. Goodrich Co., Akron, O.  
Home Rubber Co., Trenton, N. J.  
Republic Rubber Co., Youngstown, O.

## DRUGGISTS' AND STATIONERS' SUNDRIES

## Atomizers.

## Bandages.

## Bals.

## Syringes.

## Water Bottles.

## Druggists' Sundries—General.

American Hard Rubber Co., New York.  
O. J. Bailey & Co., Boston.  
Boston Woven Hose & Rubber Co.  
Canadian Rubber Co. of Montreal.  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
B. F. Goodrich Co., Akron, O.  
Hardman Rubber Co., Belleville, N. J.  
Hodgman Rubber Co., New York.  
Mittel Rubber Co., Akron, O.  
North British Rubber Co., Ltd., Edinburgh.  
Pirelli & Co., Milan, Italy.  
Seamless Rubber Co., New Haven, Ct.  
Tyer Rubber Co., Andover, Mass.

## Balls, Dolls and Toys.

Canadian Rubber Co. of Montreal.  
Continental Caoutchouc & Guttapercha Co.  
B. F. Goodrich Co., Akron, O.  
New York Rubber Co., New York.



## RUBBER BUYERS' DIRECTORY—CONTINUED.

**Combs.**

American Hard Rubber Co., New York.

**Elastic Bands.**

Canadian Rubber Co. of Montreal.  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 B. F. Goodrich Co., Akron, O.  
 Hodgman Rubber Co., New York-Boston.  
 Tyler Rubber Co., Andover, Mass.

**Erasive Rubbers.**

Davidson Rubber Co., Boston.  
 B. F. Goodrich Co., Akron, O.  
 Hardman Rubber Co., Belleville, N. J.  
 Mattson Rubber Co., New York.

**Finger Cots.**

Faultless Rubber Mfg. Co., Akron, O.  
 B. F. Goodrich Co., Akron, O.  
 Pure Gum Specialty Co., Barberton, O.

**Gloves.**

Canadian Rubber Co. of Montreal.  
 Davol Rubber Co., Providence, R. I.  
 Faultless Rubber Co., Akron, O.  
 B. F. Goodrich Co., Akron, O.  
 Pure Gum Specialty Co., Barberton, O.

**Hard Rubber Goods.**

American Hard Rubber Co., New York.  
 Canadian Rubber Co. of Montreal.  
 Davol Rubber Co., Providence, R. I.  
 Hardman Rubber Co., Belleville, N. J.  
 Stokes Rubber Co., Joseph, Trenton, N. J.  
 Tyler Rubber Co., Andover, Mass.

**Hospital Sheetings.**

Cleveland Rubber Co., Cleveland, O.  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 B. F. Goodrich Co., Akron, O.  
 Hodgman Rubber Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Tyler Rubber Co., Andover, Mass.

**Ice Bags and Ice Caps.**

Faultless Rubber Co., Akron, Ohio.  
 B. F. Goodrich Co., Akron, O.  
 Hardman Rubber Co., Belleville, N. J.  
 Pure Gum Specialty Co., Barberton, O.  
 Tyler Rubber Co., Andover, Mass.

**Life Preservers.**

Hodgman Rubber Co., New York.

**Nipples.**

Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 Faultless Rubber Co., Akron, O.  
 B. F. Goodrich Co., Akron, O.  
 Pure Gum Specialty Co., Barberton, O.  
 Tyler Rubber Co., Andover, Mass.

**Sponges (Rubber).**

Faultless Rubber Co., Ashland, Ohio.  
 B. F. Goodrich Co., Akron, O.

**Stationers' Sundries.**

American Hard Rubber Co., New York.  
 Boston Woven Hose & Rubber Co.  
 Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 B. F. Goodrich Co., Akron, O.  
 Hardman Rubber Co., Belleville, N. J.  
 Hodgman Rubber Co., New York-Boston.  
 Seamless Rubber Co., New Haven, Ct.  
 Tyler Rubber Co., Andover, Mass.

**Stopples (Rubber).**

Cleveland Rubber Co., Cleveland, O.  
 Davol Rubber Co., Providence, R. I.  
 Hodgman Rubber Co., New York.  
 Manhattan Rubber Mfg. Co., New York.  
 New York Belting & Packing Co., N. Y.  
 Tyler Rubber Co., Andover, Mass.

**Throat Bags.**

Cleveland Rubber Co., Cleveland, O.  
 Davol Rubber Co., Providence, R. I.  
 B. F. Goodrich Co., Akron, O.  
 Tyler Rubber Co., Andover, Mass.

**Tobacco Pouches.**

Canadian Rubber Co. of Montreal.  
 Faultless Rubber Co., Akron, Ohio.  
 B. F. Goodrich Co., Akron, O.  
 Pure Gum Specialty Co., Barberton, O.  
 Tyler Rubber Co., Andover, Mass.

**MACKINTOSHED  
AND SURFACE  
GOODS****Air Goods (Rubber).**

Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 Davol Rubber Co., Providence, R. I.  
 B. F. Goodrich Co., Akron, O.  
 Hodgman Rubber Co., New York.  
 New York Rubber Co., New York.  
 National India Rubber Co., Providence.  
 Tyler Rubber Co., Andover, Mass.

**Air Mattresses.**

Canadian Rubber Co. of Montreal.  
 Mechanical Fabric Co., Providence, R. I.

**Barbers' Bibs.**

Davol Rubber Co., Providence, R. I.  
 Tyler Rubber Co., Andover, Mass.

**Bathing Caps.**

Davol Rubber Co., Providence, R. I.  
 B. F. Goodrich Co., Akron, O.

**Bellows Cloths.**

Boston Rubber Co., Boston.  
 Cleveland Rubber Co., Cleveland, O.  
 Hodgman Rubber Co., New York.  
 La Crosse (Wis.) Rubber Mills Co.

**Calendering.**

La Crosse (Wis.) Rubber Mills Co.  
 Plymouth Rubber Co., Stoughton, Mass.

**Carriage Ducks and Drills.**

Cleveland Rubber Co., Cleveland, O.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Eureka Rubber Mfg. Co. of Trenton.  
 Gutta Percha & Rubber Mfg. Co., Toronto.

**Clothing.**

Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 Granby Rubber Co., Granby, Quebec.  
 Gutta Percha & Rubber Mfg. Co. of Toronto.  
 Hodgman Rubber Co., New York.  
 La Crosse (Wis.) Rubber Mills Co.  
 North British Rubber Co., Ltd., Edinburgh.  
 Pirelli & Co., Milan, Italy.

**Cravenette.**

Cravenette Co., Ltd.

**Diving Dresses.**

Hodgman Rubber Co., New York.

**Dress Shields.**

Hodgman Rubber Co., New York.  
 Mattson Rubber Co., New York.

**Horse Covers.**

Hodgman Rubber Co., New York.

**Leggings.**

Cleveland Rubber Co., Cleveland, O.  
 Hodgman Rubber Co., New York.

**Mackintoshes.**

[See Clothing.]

**Proofing.**

Canadian Rubber Co. of Montreal.  
 La Crosse (Wis.) Rubber Mills Co.  
 Plymouth Rubber Co., Stoughton, Mass.

**Rain Coats.**

Cravenette Co., Ltd.

**Rubber Coated Cloths.**

Mechanical Fabric Co., Providence, R. I.

**RUBBER  
FOOTWEAR****Boots and Shoes.**

American Rubber Co., Boston.  
 Boston Rubber Shoe Co., Boston.  
 Canadian Rubber Co. of Montreal.  
 L. Candee & Co., New Haven, Ct.  
 B. F. Goodrich Co., Akron, O.  
 Granby Rubber Co., Granby, Quebec.  
 Gutta Percha & Rubber Mfg. Co. of Toronto.  
 Hood Rubber Co., Boston.  
 Liverpool Rubber Co., Liverpool, Eng.  
 Lymington Rubber Co., Williamsport, Pa.  
 Meyer Rubber Co., New York.  
 National India Rubber Co., Boston.  
 North British Rubber Co., Ltd., Edinburgh.  
 United States Rubber Co., New York.  
 Wales-Goodyear Rubber Co., Boston.  
 Woonsocket Rubber Co., Providence.

**Heels and Soles.**

Boston Woven Hose & Rubber Co.  
 Canadian Rubber Co. of Montreal.  
 Continental Cautchouse & Gutta-percha Co., Hanover.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Springfield Tire & Rubber Co., Springfield, Ohio.

**Tennis Shoes.**

American Rubber Co., Boston.  
 Boston Rubber Shoe Co., Boston.  
 Granby Rubber Co., Granby, Quebec.  
 La Crosse Rubber Mills Co., La Crosse, Wis.

Liverpool Rubber Co., Liverpool, Eng.  
 National India Rubber Co., Providence.  
 United States Rubber Co., New York.

**Wading Pants.**

Canadian Rubber Co. of Montreal.  
 Hodgman Rubber Co., New York.

**SPORTING  
GOODS****Foot Balls.**

Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 Faultless Rubber Co., Akron, Ohio.  
 B. F. Goodrich Co., Akron, O.  
 Hodgman Rubber Co., New York.

**Golf Balls.**

Boston Belting Co., Boston.  
 Canadian Rubber Co. of Montreal.  
 Davidson Rubber Co., Boston.  
 B. F. Goodrich Co., Akron, O.

**Submarine Outfits.**

Hodgman Rubber Co., New York.

**Sporting Goods.**

Canadian Rubber Co. of Montreal.  
 Faultless Rubber Co., Akron, Ohio.  
 B. F. Goodrich Co., Akron, O.  
 Hodgman Rubber Co., New York.  
 Tyler Rubber Co., Andover, Mass.

**Striking Bags.**

Canadian Rubber Co. of Montreal.  
 Faultless Rubber Co., Akron, Ohio.  
 B. F. Goodrich Co., Akron, O.  
 Pure Gum Specialty Co., Barberton, O.

**DENTAL AND  
STAMP RUBBER****Dental Gum.**

American Hard Rubber Co., New York.  
 Cleveland Rubber Co., Cleveland, O.  
 Tyler Rubber Co., Andover, Mass.

**Rubber Dam.**

Cleveland Rubber Co., Cleveland, O.  
 Davol Rubber Co., Providence, R. I.  
 B. F. Goodrich Co., Akron, O.  
 Hodgman Rubber Co., New York.  
 Tyler Rubber Co., Andover, Mass.

**Stamp Gum.**

B. F. Goodrich Co., Akron, O.  
 Mattson Rubber Co., New York.  
 Mechanical Rubber Co., Chicago, Ill.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.

**ELECTRICAL****Electrical Supplies.**

American Hard Rubber Co., New York.  
 Lake Shore Rubber Co., Erie, Pa.  
 Joseph Stokes Rubber Co., Trenton, N. J.  
 Massachusetts Chemical Co., Boston.  
 Tyler Rubber Co., Andover, Mass.

**Friction Tape.**

Boston Belting Co., Boston.  
 Boston Woven Hose & Rubber Co.  
 Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 B. F. Goodrich Rubber Co., Akron, O.  
 Massachusetts Chemical Co., Boston.  
 Mechanical Rubber Co., Chicago.  
 Home Rubber Co., Trenton, N. J.  
 Revere Rubber Co., Boston-New York.

**Hard Rubber Goods.**

American Hard Rubber Co., New York.  
 Canadian Rubber Co. of Montreal.  
 Joseph Stokes Rubber Co., Trenton, N. J.

**Insulating Compounds.**

Canadian Rubber Co. of Montreal.  
 Gutta-Percha & Rubber Mfg. Co., Toronto.  
 Massachusetts Chemical Co., Boston.

**Insulated Wire and Cables.**

National India Rubber Co., Providence

**Splicing Compound.**

Home Rubber Co., Trenton, N. J.

**MISCELLANEOUS****Architect and Engineer.**

Herbert S. Kimball, Boston.

**Cement (Rubber).**

Boston Belting Co., Boston.  
 Canadian Rubber Co. of Montreal.  
 B. F. Goodrich Co., Akron, O.  
 Manhattan Rubber Mfg. Co., New York.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.

**Chemical Analyses.**

Durand Woodman, Ph. D., New York.  
 H. L. Terry, Manchester, England.

**Chemists.**

Stephen P. Sharples, Boston, Mass.  
 Durand Woodman, Ph. D., New York.

**Laboratory—Tests, Analyses.**

G. E. Heyl-Dia, New York.

**Rubber Planting.**

Hidalgo Plantation and Commercial Co., San Francisco.  
 Mexican Mutual Rubber Co., Chicago.

**Rubber Tree Seeds.**

J. P. William &amp; Bros., Heneratgodā, Ceylon.



## MACHINERY AND SUPPLIES FOR RUBBER MILLS.

## RUBBER MACHINERY

**Acid Tanks.**  
Birmingham Iron Foundry, Derby, Ct.  
**Band Cutting Machine.**  
A. Adamson, Akron, O.  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
**Belt Folding Machines.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Belt Sitters.**  
**Cloth Dryers.**  
**Gearing.**  
**Shafting.**  
**Wrapping Machines.**  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Belt Stretchers.**  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Hoggson & Pettis Mfg. Co., New Haven.  
**Blowers.**  
B. F. Sturtevant Co., Hyde Park, Mass.  
L. J. Wing Mfg. Co., New York.  
**Boilers.**  
William R. Thropp, Trenton, N. J.  
**Braiders.**  
New England Butt Co., Providence, R. I.  
**Brands and Labels.**  
Horace E. Fine, Trenton, N. J.  
**Buckles.**  
The Weld Mfg. Co., Boston.  
**Cabling Machinery.**  
Alton Machine Co., New York.  
**Calenders.**  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Textile-Finishing Machinery Co., Providence, R. I.  
**Castings.**  
A. Adamson, Akron, O.  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Chucks (Lathe).**  
Hoggson & Pettis Mfg. Co., New Haven.  
**Churns.**  
American Tool & Machine Co., Boston.  
**Clutches.**  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Crackers.**  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
**Devulcanizers.**  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
Edred W. Clark, Hartford, Ct.  
William R. Thropp, Trenton, N. J.  
**Dies.**  
Hoggson & Pettis Mfg. Co., New Haven.  
Holmes Bros., Chicago, Ill.  
**Doubling Machines.**  
American Tool & Machine Co., Boston.  
**Draft, Mechanical.**  
B. F. Sturtevant Co., Hyde Park, Mass.  
**Drying Apparatus.**  
American Process Co., New York.  
B. F. Sturtevant Co., Hyde Park, Mass.  
**Drying Machines.**  
Alton Machine Co., New York.  
Joseph P. Devine, Buffalo, N. Y.  
Birmingham Iron Foundry, Derby, Ct.  
Textile-Finishing Machinery Co., Providence, R. I.  
**Dynamoes.**  
B. F. Sturtevant Co., Hyde Park, Mass.  
**Embossing Calenders.**  
Textile-Finishing Machinery Co., Providence, R. I.  
**Engines, Steam.**  
Alton Machine Co., New York.  
B. F. Sturtevant Co., Hyde Park, Mass.  
William R. Thropp, Trenton, N. J.  
**Engraving Roll.**  
Hoggson & Pettis Mfg. Co., New Haven.  
**Factory Construction.**  
Herbert S. Kimball, Boston.

**Exhaust Fans and Heads.**  
**Fans (Electric).**  
**Fans (Exhaust and Ventilating).**  
**Forges.**  
**Fuel Economizers.**  
**Gas Exhausters.**  
**Generating Sets.**  
B. F. Sturtevant Co., Hyde Park, Mass.  
**Grinders and Mixers.**  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
William R. Thropp, Trenton, N. J.  
**Hangers.**  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Heating and Ventilating Apparatus.**  
B. F. Sturtevant Co., Hyde Park, Mass.  
**Hose Machines.**  
A. Adamson, Akron, Ohio.  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
New England Butt Co., Providence, R. I.  
**Hydraulic Accumulators.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Hydraulic Machinery.**  
**Insulating Machinery.**  
**Iron Castings.**  
Alton Machine Co., New York.  
**Lasts (Rubber Shoe).**  
Middlesex Last Co., Boston.  
**Lathes—Hard Rubber.**  
A. Adamson, Akron, Ohio.  
**Lathes—Jar Ring.**  
A. Adamson, Akron, Ohio.  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
William R. Thropp, Trenton, N. J.  
**Machinists' Tools.**  
Hoggson & Pettis Mfg. Co., New Haven.  
**Motors, Electric.**  
B. F. Sturtevant Co., Hyde Park, Mass.  
**Moulds.**  
A. Adamson, Akron, Ohio.  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
Hoggson & Pettis Mfg. Co., New Haven.  
Holmes Bros., Chicago, Ill.  
**Pillow Blocks.**  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Presses (for Rubber Work.)**  
A. Adamson, Akron, O.  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
Boomer & Boschert Press Co., Syracuse, N. Y.  
Edred W. Clark, Hartford, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
William R. Thropp, Trenton, N. J.  
**Pumps.**  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
Boomer & Boschert Press Co., Syracuse, N. Y.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Racks for Boot and Shoe Cars.**  
Hoggson & Pettis Mfg. Co., New Haven.  
**Reducing Valves.**  
Mason Regulator Co., Boston.  
**Rollers (Hand).**  
Hoggson & Pettis Mfg. Co., New Haven.  
Holmes Bros., Chicago, Ill.  
**Rubber Covering Machines.**  
Alton Machine Co., New York.  
New England Butt Co., Providence, R. I.  
**Separators.**  
Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.  
**Separators for Reclaimed Rubber.**  
American Process Co., New York.  
**Special Rubber Machinery.**  
Alton Machine Co., New York.  
Wellman Sole Cutting Machine Co., Medford, Mass.  
**Spreaders.**  
Alton Machine Co., New York.  
American Tool & Machine Co., Boston.  
Birmingham Iron Foundry, Derby, Ct.  
New England Butt Co., Providence, R. I.  
**Steam Hot Blast Apparatus.**  
B. F. Sturtevant Co., Hyde Park, Mass.  
**Steam Traps and Specialties.**  
Jenkins Bros., New York.  
Mason Regulator Co., Boston.  
B. F. Sturtevant Co., Hyde Park, Mass.  
**Steel Stamps.**  
Hoggson & Pettis Mfg. Co., New Haven.

**Stitchers (Hand).**  
Hoggson & Pettis Mfg. Co., New Haven.  
Holmes Bros., Chicago, Ill.  
**Strip Covering Machines.**  
**Strip Cutters.**  
Alton Machine Co., New York.  
New England Butt Co., Providence, R. I.  
**Tubing Machines.**  
A. Adamson, Akron, O.  
Alton Machine Co., New York.  
Edred W. Clark, Hartford, Ct.  
Holmes Bros., Chicago, Ill.  
John Royle & Sons, Paterson, N. J.  
**Vacuum Drying Chambers.**  
Alton Machine Co., New York.  
Joseph P. Devine, Buffalo, N. Y.  
**Varnishing Machines.**  
Birmingham Iron Foundry, Derby, Ct.  
**Ventilating Apparatus.**  
B. F. Sturtevant Co., Hyde Park, Mass.  
**Vulcanizers.**  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
William R. Thropp, Trenton, N. J.  
**Washers.**  
Alton Machine Co., New York.  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
William R. Thropp, Trenton, N. J.  
**Wire Insulating Machines.**  
Alton Machine Co., New York.  
New England Butt Co., Providence, R. I.  
**Wire Rope Machinery.**  
Alton Machine Co., New York.

## SECOND-HAND MACHINERY.

W. C. Coleman Co., Rochelle Park, N. J.  
Philip McGrory, Trenton, N. J.

## FACTORY SUPPLIES

**Acid (Carbolic).**  
Barrett Mfg. Co., Philadelphia.  
**Antimony, Sulphurets of.**  
GOLDEN.  
Actien-Ges. Georg Egestorff's Salzwerke, Linden, Germany.  
Atlas Chemical Co., Newtonville, Mass.  
GOLDEN AND CRIMSON.  
Joseph Cantor, New York.  
Wm. H. Scheel, New York.  
Stamford (Conn.) Rubber Supply Co.  
Type & King, London, England.  
**Balata.**  
George A. Alden & Co., Boston.  
**Benzol.**  
Barrett Mfg. Co., Philadelphia.  
Samuel Cabot, Boston.  
**Black Hypo.**  
Joseph Cantor, New York.  
William H. Scheel, New York.  
Type & King, London, England.  
**Boxes (Wood).**  
Henry H. Sheip & Co., Philadelphia.  
**Brass Fittings.**  
A. Schrader's Son, Inc., New York.  
**Carbon Bisulphide.**  
George W. Speaight, New York.  
**Caustic Soda.**  
Acker Process Co., Niagara Falls, N. Y.  
**Chemicals.**  
Acker Process Co., Niagara Falls, N. Y.  
Empire Palm Oil Co., Boston.  
George W. Speaight, New York.  
**Colors.**  
Joseph Cantor, New York.  
William H. Scheel, New York.  
Toch Bros., New York.  
Type & King, London, England.  
**Crude Rubber.**  
George A. Alden & Co., Boston.  
A. W. Brunn, New York.  
Hagemeyer & Brunn, New York.  
Hirsch & Kaiser, Inc., New York.  
F. R. Müller & Co., New York.  
Nesle & Co., New York.  
Rubber Trading Co., New York-Boston.

**Drills.**  
**Duck (Cotton).**  
J. H. Lane & Co., New York.  
**Gilsonite.**  
William H. Scheel, New York.  
**Graphite Grease.**  
Jos. Dixon Crucible Co., Jersey City  
**Gutta-Percha.**  
George A. Alden & Co., Boston.  
Rubber Trading Co., New York-Boston  
**Hose Bands, Straps & Menders.**  
Boston Woven Hose & Rubber Co.  
William Yerdon, Fort Plain, N. Y.  
**Hose Pipes, Nozzles & Couplings.**  
Boston Woven Hose & Rubber Co.  
Kureka Fire Hose Co., New York.  
Revere Rubber Co., Boston.  
A. Schrader's Son, Inc., New York.  
**Hydro-Carbon Products.**  
Geo. A. Alden & Co., Boston.  
William H. Scheel, New York.  
**Infusorial Earth.**  
Stamford (Conn.) Rubber Supply Co.  
**Lampblack.**  
Samuel Cabot, Boston.  
**Lawn-Hose Supporters.**  
C. J. Bailey & Co., Boston.  
**Lead—Blue.**  
**Lead—Sublimed White.**  
Picher Lead Co., Chicago, Ill.  
**Lithopone.**  
Gabriel & Schall, New York.  
**Naphtha.**  
Barrett Mfg. Co., Philadelphia.  
**Paris White and Whiting.**  
H. F. Taintor Mfg. Co., New York.  
**Reclaimed Rubber.**  
Alkali Rubber Co., Akron, Ohio.  
American Reclaimed Rubber Co., Rochelle Park, N. J.  
Bloomington (N. J.) Soft Rubber Co.  
E. H. Clapp Rubber Co., Boston, Mass.  
Danversport Rubber Co., Boston.  
Manufactured Rubber Co., New Jersey Rubber Co., Lambertville, N. J.  
Pequannoc Rubber Co., Butler, N. J.  
Philadelphia Rubber Wks., Philadelphia.  
Jos. Stokes Rubber Co., Trenton, N. J.  
S. & L. Rubber Co., Chester, Pa.  
U. S. Rubber Reclaiming Wks., N. Y.  
**AGENTS AND DEALERS.**  
Philip McGrory, Trenton, N. J.  
H. P. Moorhouse, Paris, France.  
Rubber Trading Co., New York-Boston.  
Wm. Somerville's Sons, Liverpool.  
**Scrap Rubber.**  
Bers & Co., Philadelphia.  
P. Bromfield & Co., Boston.  
W. C. Coleman Co., Rochelle Park, N. J.  
Wm. H. Cummings & Sons, New York.  
Theodore Hoffeller & Co., Buffalo, N. Y.  
A. W. Leslie & Co., Ltd., London, Eng.  
Philip McGrory, Trenton, N. J.  
Henry P. Rindskopf, Brooklyn, N. Y.  
San Giacomo Sons, Newark, N. J.  
J. Schnurmann, London.  
United States Waste Rubber Co., Brockton, Mass.  
M. J. Wolpert, Odessa, Russia.  
**Substitute.**  
Joseph Cantor, New York.  
Massachusetts Chemical Co., Boston.  
Wm. H. Scheel, New York.  
Stamford (Conn.) Rubber Supply Co.  
Type & King, London, England.  
**Sulphur.**  
Battelle & Renwick, New York.  
T. & S. C. White Co., New York.  
**Sulphur Chloride.**  
Acker Process Co., Niagara Falls, N. Y.  
William H. Scheel, New York.  
George W. Speaight, New York.  
Stamford (Conn.) Rubber Supply Co.  
**Tire Fabrics.**  
J. H. Lane & Co., New York.  
**Tire Valves.**  
A. Schrader's Son, Inc., New York.  
**Zinc Sulphide.**  
Joseph Cantor, New York.  
Type & King, London, England.  
**Zinc White.**  
New Jersey Zinc Co., New York.  
Stamford (Conn.) Rubber Supply Co.

